

# MARINE RECORD

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## IMPORTANT TREASURY DECISIONS.

### EQUIPMENT OF STEAMSHIPS.

A duplicate piece of machinery called a "screw boss," imported for the purpose of replacing a defective piece in the steamship Kaiser Wilhelm II, held not to be an article of importation, but part of the equipment originally provided for and belonging to steamer for which intended.

TREASURY DEPARTMENT, March 1, 1899.

SIR: This is to confirm the Department's telegram to you, under date of the 25th ultimo, as follows, viz:

Liquidate entry screw boss ex Friedrich der Grosse to Kaiser Wilhelm II without payment of duty, in accordance with opinion of the Attorney-General of the 24th instant.

Respectfully yours, W. B. HOWELL,  
Assist. Sec'y.

Collector of Customs, New York, N. Y.

[Opinion of Attorney-General above referred to.]

DEPARTMENT OF JUSTICE, }  
WASHINGTON, D. C., Feb. 24, 1899. }

*The Secretary of the Treasury.*

SIR: In your communication of the 14th inst., you submit the question whether you have power to permit a piece of machinery known as a "screw boss," brought into the harbor of New York by the Friedrich der Grosse for the purpose of replacing a defective piece in the steamship Kaiser Wilhelm II of the same line, the North German Lloyd, to be transferred in that harbor, under proper safeguards, from the former to the latter vessel without the payment of duty thereon.

It appears that the screw boss sought to be transferred is a duplicate piece of machinery, designed and made especially for the Kaiser Wilhelm, and kept on hand at the home port, Bremen, for use in case of emergency. Duplicate pieces of the more important parts of the machinery of this vessel were manufactured at the time of the building of the engines and machinery, and have been kept on hand since, so that, in case of accident, a broken or defective piece of machinery may be replaced without delay. The smaller pieces are carried on board the ship, but on account of its weight (6 tons) the screw boss was kept at Bremen until needed.

Under the circumstances stated, I am disposed to regard this duplicate piece of machinery not as an article imported from a foreign country and subject to duty under our customs law, but as a part of the equipment originally provided for and belonging to the steamer Kaiser Wilhelm, which you may permit to be delivered to it by its sister ship without the payment of duty.

In the recent case of the Conqueror (166 U. S., 110), the Supreme Court held that a steam yacht, built abroad and purchased by a citizen of this country, was not subject to duty upon being brought into the port of New York. Respecting the character of this steam yacht, the court, speaking by Mr. Justice Brown, said, (page 115):

"She is not imported or taken into the country in the ordinary sense in which that term is used with reference to other articles, does not become commingled with the general mass of property, and is employed precisely as she might be legally employed by her foreign owners, or by an American citizen leasing her from such owner. Other articles are dutiable, not because they have been purchased, but because they are actually imported and become the subject of sale and commerce within the country."

In support of its view that a vessel is not dutiable, the court cited United States v. A Chain Cable (2 Sumn., 362) and the Gertrude (2 Ware, 181) involving the dutiability of parts of the equipment of a vessel, and, therefore, peculiarly pertinent in considering the question submitted.

In United States v. A Chain Cable, it was held that a

chain cable, which was purchased at Liverpool by the master of the ship Marathon to supply the place of a hempen cable which had become unseaworthy before the arrival of the ship at Liverpool, became a part of the equipment of the ship and was exempt from duty, although, after the ship had returned to Boston, it was taken from the vessel and loaned for a temporary use in launching a ship at Medford. Although detached from the ship while thus being used, it retained its character as a part of the equipment of the ship, and was, therefore, exempt from duty.

In the Gertrude it was held that the tackle, apparel, and furniture of a foreign vessel wrecked upon our coast and landed and sold separately from the hull were not goods, wares, and merchandise imported into the United States within the meaning of the revenue laws. The case was put upon the ground that the rigging and apparel of the ship are a part of the ship, and, therefore, not merchandise in any other sense of the word than that in which the ship herself is. Judge Ware used the following language, which was approved by Mr. Justice Story on appeal to the circuit court (3 Story, 68, 71, 76):

"If we look through the whole of the numerous acts of Congress laying duty on merchandise imported, as well as those regulating the collection of the same, we shall find they uniformly contemplate the cargo; they refer to articles having the quality of merchandise in the ordinary and most popular sense of the word. They refer also to goods intended to be introduced into the country for sale and consumption or for the general purpose of commerce."

I understand it to be true that, under the ruling of your department, the racing rigging of a yacht, which can not be used in crossing the ocean, and is, therefore, brought back to this country on a steamer, is admitted free of duty because it is treated as a part of the yacht itself.

If the Kaiser Wilhelm had itself brought the duplicate screw boss into the port of New York, the right to use it, free of duty, would hardly be questioned. The case is not materially changed by its being brought over in a sister ship and transferred in the harbor of New York without any landing in the ordinary sense. The duplicate screw boss, like the original, was made and delivered abroad to the steamship company for the Kaiser Wilhelm. It then became a part of the equipment of that ship, to be used when required. At present it is indispensable. It is not imported for sale or consumption here in the ordinary sense. It is brought over to relieve the disabled ship of a friendly nation detained in one of our ports for repair.

Upon the whole, without further discussion, let me say I take the view you may permit the transfer and delivery to the Kaiser Wilhelm of this part of its equipment without exacting any duty. Very respectfully,

JOHN K. RICHARDS,

Solicitor-General.

Approved:

JOHN W. GRIGGS, Attorney-General.

## DISMAL SWAMP CANAL.

An old waterway will soon be reopened—the historic Dismal Swamp canal, connecting the Chesapeake Bay with Albemarle Sound. The canal extends from Deep Creek, Va., an arm of the Elizabeth river, to South Mills, N. C., at the headwaters of the Pasquotank river, a tributary of Albemarle Sound. Although only 22 miles in length and only 10 feet in depth, it is an important link in the chain of inland waterways, extending along the coast from New York to Florida, and its opening will afford the south the same means of transportation by barges as are enjoyed by the territory between Norfolk and the north. Another advantage is the avoidance of the dangers of Cape Hatteras to vessels of light draught, with resulting decreased insurance

rates. Other gains enumerated are the opening up of 2,500 miles of inland navigation, comprising the many rivers of the Carolinas, and a possible draining of the Dismal Swamp, thus reclaiming a large part of the 200,000 acres of marsh. The old canal, whose charter dates back to 1787, was opened in 1820, and before the civil war it is said to have earned for its stockholders as much as 60 per cent. per year. Since the close of the war, however, and the opening of the deeper-channeled Albemarle and Chesapeake canal, its traffic and earnings have been very light—in fact, except to a few small boats of light draught adapted to local necessities, all navigation upon its waters has been virtually closed.

## THE GRAIN BILL OF LADING.

There are three changes in the bill of lading which are to be considered. These are the grain delivery clause; a detention in unloading clause, providing that a vessel shall unload at not more than two elevators and if not discharged twenty-four hours after arrival, she may unload at any acceptable elevator; a shortage clause, providing that a vessel shall be paid freight on amount of cargo actually delivered without payment for overruns, and be liable for shortage not to exceed one half bushel in 1,000 bushels, which may be deducted from the freight at current market price, but this limitation is without prejudice to claims for grain wet, damaged or actually lost by the vessel.

The grain merchants recognized the injustice of requiring vessel owners to pay for shortage, due to the difference in elevator weights and not actually lost in transit, and recommended the submission of all cases of this nature to an arbitration board. The meeting unanimously favored this idea.

The Lake Carriers' Association submitted a form of demurrage clause, in regard to delays in unloading, which it wished incorporated in the bill. Before inserting this, however, it was decided to notify the eastern trunk lines, and learn from them what facilities they would furnish at Buffalo to vessels carrying grain.

Summed up, the proceedings and results are as follows: That the grain bill of lading on the lakes be changed by inserting a clause to the effect that when grain is consigned in the care of any person at its destination, unless the original bill of lading is there presented for cancellation, a delivery of the grain to the person in whose care it was consigned shall be a good delivery, exempting the vessel from liability.

With respect to delays in loading, they having occurred before the bill was made (the bill being made when the vessel is loaded), nothing should be placed in the bill of lading relating to delays in loading, but the matter should be left to individual bargain between the charterer of the vessel and the owner.

That the Lake Carriers' Association should recommend to agents who make charters of their vessels that the entire cargo should be loaded at not more than two elevators, and if loaded at more than two elevators the shipper should be liable for the extra expenses.

All consignments of grain should be made to individuals, and that the grain should not be consigned to elevators or railroad companies.

Regarding delays in unloading, the trunk lines east of Buffalo should be given ten days to make known to the secretary of the Lake Carriers' Association what the trunk lines will do in the way of furnishing proper facilities at the port of Buffalo to the lake vessels bringing freight to that port.

A resolution in favor of referring large shortages in grain cargoes to arbitration was adopted unanimously, the arbitrators to be those of the different grain exchanges throughout the country.

No action was taken on the report of the committee. Another meeting will be held about April 1, when the report will be disposed of. In the meantime the Lake Carriers' Association will hold in abeyance the provisions of the new bill of lading which they now have under consideration.



## NEWS AROUND THE LAKES.

## CHICAGO.

*Special Correspondence to The Marine Record.*

Capt. Pardee has departed for Holland to get the steamer Soo City of the Holland & Chicago line in shape for the coming season. The Soo City has had some \$6,000 expended on her during the winter, receiving entire new bulwarks and other repairs. The steamer City of Holland, also of the same line, has had her engines compounded.

The steamer Queen of the West, at Bates' shipyard has received new top sides, stanchions and main rail all around wale strake, main deck, bulwarks and pole spars and some main deck beams. This with a new coat of paint from water line to truck, gives her the appearance of one of the finest. The work has been done under the supervision of Capt. Morton Place.

Masters and engineers are reaching here from various lake ports to fit out. There is a whole month ahead of us yet before the opening of navigation and probably longer than that, at the same time there is nothing like being ready to take the first slant. Now is about the time to gauge vesselowners' ideas and opinions about being held down by any first of May compact. Every one knows that a short prosperous season with brisk rates of freight is the best all round, or at least better than a long drawn out spell of dull chartering at starvation freight offerings. Just the same, every man having a lot of money invested in floating property wants to see it earning something, or in any case, trying to.

A boat builder who has his workshop under Lake street bridge, has conceived something new in methods for propelling boats. In his shop he has a boat nearly completed which is modeled something after the form of a shark. It is 18 feet in length, as narrow as a racing boat and designed to hold one person. The tail and fins, which are elastic plates, act precisely like those of a fish and are manipulated by internal mechanism. The principal advantage claimed for the boat is the small amount of force required to propel it, for when the plates are moved and bend the action of the water on the convex part will produce a push forward when they spring back by virtue of their elasticity and another push will result, thus to a large extent utilizing the movement of the waves.

Navigation between Benton Harbor, St. Joe and Chicago was opened on the 10th inst. by the steamer City of Louisville making her first trip of the season. Considerable drift ice was encountered on the way. The Louisville is in excellent order, having been completely overhauled. The cabin also received full attention. It is painted fleece-white with old gold trimmings and the ceiling is in azure blue. Each end of cabin is surmounted by a full width oil painting of the St. Joe river, showing the river steamer May Graham in the distance. The City of Louisville is commanded by the popular Capt. W. A. Boswell; first officer, Burt Simons; second officer, Louis Buisey; chief engineer, Wm. J. Johnson; second engineer, Adolph Zeich; clerk, O. A. Shauman; steward, Richard Sawyer.

Mr. J. C. Williams, president and treasurer of the Phoenix Metallic Packing Co., of Chicago, is sending out a folder which tells of the good qualities of the Phoenix metallic piston and valve packing, which is used very extensively throughout the country on marine, stationary and pumping engines. The company state that in many cases this packing has been continuously in use for four years without removal or repairs, and during the whole time has given excellent satisfaction. This statement is borne out by a number of excellent testimonials from the chief engineers of large manufacturing and municipal plants, such as the Chicago Ship Building Co. and the Department of Public Works of the City of Chicago. The advantages claimed for this packing are that it is self-adjusting, highly elastic, simple and durable.

A salutary lesson has been taught at the head of the lakes to those wreckers who imagined that the cargo, equipment, etc., of a stranded vessel was fair prey. The thieving last fall from the stranded steamer Arthur Orr amounted to several thousand dollars, and as this amount was considered worth looking after, the insurance companies searched for the wreckers and had several of the most prominent arrested. I say prominent, and use the word advisedly, for indictments have been returned against men who ought to and did know better than to steal other men's property. The poor fishermen, farmers and others living along the shore that captured some of the flotsam and jetsam, needed only to be told that they had done wrong when restitution was immediately in order. These other wreckers, perhaps, deserve a taste of the penitentiary.

The following is a copy of a letter sent out this week by a leading firm of vessel agents here: "No charters have been made that would tend to make us feel weak on the situation, and still we fear there is a possibility of your holding off too long. We notice some anxiety on the part of the line-boat people, and we fear that before long they may turn in and accept 3-cent business. You will also understand that the shipper claims ability from his standpoint to carry the grain as cheaply as at 3 1/4 cent lake freight basis. They pay for each ten days 1/4 cent storage. Figuring forty days from this time until the opening of navigation, and we have 1 cent storage; add insurance, 1/2 cent, and say the opening rate of freight is 1 1/2 cents, and we have all told 3 cents. Shippers claim they cannot do much worse than this by holding off. These figures are what causes them to

refuse vessels at 3 1/4 cents. There is no Lake Ontario demand just now but business in that direction will undoubtedly develop very strong about the opening." The foregoing is one of the clearest and fairest statements ever sent out from agent to owners. A few weeks ago agents were importuning owners to place early at 2 3/4 cents.

## BUFFALO.

*Special Correspondence to The Marine Record.*

The fueling companies will hold a meeting to establish a figure on coal, it is expected that last season's price will be adopted, and that was \$2 per ton.

The officers of the steamer Panther are expected here in a few days to fit out the boat. Andrew Stalker is the master, John Cunningham mate, the chief engineer is Charles Church and James Agnoe second.

It is reported that the Tonawanda Iron & Steel Co. has bought the wooden steamer W. H. Gratwick in addition to the steamer Veronica and schooner Amboy and that the deal for another wooden steamer is about closed.

Coal shippers are not seeking tonnage or even asking about rates as yet, nor will anything much be done this month, it is further considered likely that the first shipments will be of soft coal, and that before the anthracite begins to move.

J. R. Blanchett, of this port, was chief engineer of the Thos. Cranage last season, and has been re-appointed for the coming season. By some means the RECORD named A. B. Le Ternier as being placed in the Cranage, but there will be no change.

Quite a force of ship carpenters are working on the fleet laid up at Tonawanda and there is a general feeling that navigation will open quite early this season. No one places the date further than a month hence and preparations are being made accordingly.

It is reported that the officials of the Cleveland & Buffalo Transit Co. are discussing the advisability of sending their steamers to Detroit the coming season, touching at Cleveland both ways between Buffalo and Detroit. A gentleman connected with the company said that it would not be a bad scheme to try.

Many demurrage cases growing out of the grain blockade at this port last fall are now coming up. One lawyer has six of these cases listed. They cover delay to the Superior City, Maytham, Germanic, Baltic, George N. Orr and Phillip Minch. All of these steamers lost a trip or more on account of the detention.

So Detroit is going to put on a line of the fastest steamers on the lakes, to trade here this season. Well! I guess not. A couple of high-classed side-wheel passenger and cargo steamers 425 feet in length, such as it is said these will be, can't be built this year, so it seems quite in order to wait several months longer until later developments may prove if there is any bottom to the rumor.

A. B. Wolvin, of Duluth, who rumor had it was to enter the service of J. J. Hill of the Northern Railroad Co., with headquarters in San Francisco, was in Buffalo on Tuesday. He left for New York. It is stated that eastern parties have offered Mr. Wolvin inducements which appear to be superior to those made by the Northern people, and the indications are very strong that Mr. Wolvin will not transfer his interests to the Pacific coast.

Grain elevator men claim that they lost money last year—possibly they lost money by not making any—or in some other left-handed way of expressing it, however a conference of elevator owners has been held and a mutual understanding arrived at whereby the interests may be more united in the future and business carried on to better advantage for all concerned. The new grain bill of lading now being formed by a committee of the Lake Carriers' Association, has perhaps had some effect, or is perhaps, the main cause of these elevator men asking themselves a few questions so as to straighten matters up a trifle.

The harbor committee of the Merchants' Exchange is trying to establish a dock line on the lake front, which is now for a long distance protected by the breakwater. A meeting has been held with the government engineer, and it was virtually decided that the line should be 1,600 feet inside of the breakwater, which will give ample space for anchoring vessels. The entire length of the breakwater is at least four miles, the outer harbor, when complete, will shelter a large fleet. This line affords room for railroad tracks in the rear of the piers, although the Blackwell ship canal runs parallel to them for a considerable distance. Owing to a dispute over the title to the land the lake front south of the entrance to the inner harbor has never been built up.

The decision of the Hocking Valley Railroad Co. to purchase rapid handling ore machinery is very important to the port of Toledo. Its coal traffic has grown steadily, but the ore trade of this port has not kept pace with some of the other ports. Now this is to be changed. The Hocking Valley has purchased rapid loading ore machines and there is not much doubt that the Ohio Central will soon do the same. There will be two of the new machines built by the Brown Hoisting and Conveying Machine Co. The machines will convey from the vessel to the dock, the dock to the vessel, or the dock to the cars, making it well adapted for any condition. It is expected that the first one will be erected in May and the second one in June to catch the heavy ore shipments from that time on through the season.

## CLEVELAND.

*Special Correspondence to The Marine Record.*

Capt. Martin Christy arrived here this week from Toledo to take charge of the steamer John B. Ketcham.

Mr. Robert Logan, consulting engineer and marine architect has returned from his recent business tour.

The steamer Specular owned by the Republic Iron Co., has docked in the Ship Owners dry dock for a general overhauling.

The Mutual Line steamers at Ashtabula will begin loading coal as it arrives, the Roumania and her consort the J. J. Barlum, will also load coal.

Louis Sebastian, chief engineer of the Kearsarge arrived here this week to fit out. C. S. Staley, last season on the Wilson, will go second in the Kearsarge.

Mr. A. Osier, West Bay City, western representative for the New York cordage house of De Grauw, Aymar & Co., was in the city on business for his firm this week.

Captain M. B. Parsons will take charge of the new steel steamer M. A. Hanna, she is nearing completion at the yards of the Globe Iron Works Co., and will be launched this month.

The book containing the list of beacons, buoys and day marks of the northern lakes and rivers, issued by the Government, is just out, and masters can obtain copies free of charge by applying to the Custom House.

Mr. J. C. Gilchrist has received a letter from New York stating that the schooner H. D. Alverson, chartered last season for coast service, is so high on the beach that there is no chance of releasing her. The vessel was insured for her full value.

It has been decided to launch the large steel cargo steamer now building at the yards of the Globe Iron Works Co., to the order of the Cleveland Steamship Co., on Saturday afternoon, March 25. She will be named M. A. Hanna, in honor of the United States Senator of that name.

There has been an inquiry through the week for Duluth charters of wheat to Buffalo at 2 1/2 cents. This rate is equal to 93 1/3 cents on ore and \$1 on corn. It is not learned that much tonnage has been placed at the above figure as there is a rising freight market for large vessels not already fixed.

Work on lengthening the steel steamer Globe is progressing satisfactorily, and it is expected that she will be ready for business on the opening of navigation, with the addition of 72 feet the Globe will be over 450 feet in length and be one of the largest carriers, also one of the staunchest built craft on the lakes.

Coal shippers are hanging fire at their offer of 30 cents for Lake Michigan charters, and don't want to pay any more, on the other hand, it is more likely that they could secure all the tonnage they wanted at 35 cents, though vessel owners and brokers consider 40 cents a medium figure. There is nothing offering just now in ore freights.

At the regular meeting of the Civil Engineers' Club, held on Tuesday night, the following officers were elected: President, Col. Jarel A. Smith, Corps of Engineers, U. S. A.; vice-president, John W. Langley; secretary, Arthur A. Skeels; treasurer, John N. Coffin; librarian, William E. Reed; directors, Joseph R. Oldham, William B. Hanlon.

The Cleveland & Buffalo line of passenger steamers are being overhauled at the Lorain yards of the Cleveland Ship Building Co., preparatory to fitting out for the season's business. While it is not a very expensive job to lay a boat up for the winter, it takes quite a sum to equip and refit a large passenger steamer, and by the time a fleet is ready to be placed on their route again there must surely be a diminished bank account to a company's credit.

Capt. Thomas Wilford in talking of the lake trade for the coming season, is quoted as saying that the prospects were very good. "The outlook has not been so encouraging for several years as it is now. I have always noticed that the prices offered the first part of the season were the best, but that is not so this year. Charters are being made right along, but the man who holds off chartering until later is the man who will make the money this year."

## PORT HURON.

*Special Correspondence to The Marine Record.*

The tug Lizzie, sunk in Black river, has been raised and is now lying at her dock.

The prospect for an early opening is very poor, for the ice is heavy and lots of it.

The ice at the foot of Lake Huron has blown out of sight to the north, but only for a short time. The wind shifts and back it comes.

Harvey C. Beeson, publisher of Beeson's Marine Directory, Chicago, paid this city a visit and he says that he is well satisfied with the patronage he gets here.

Alex. Montgomery, of Elkhart, Ind., Capt. James Montgomery, George Montgomery and wife, of Chicago, arrived in the city Saturday, being called here on account of the illness and death of Mrs. John White.

About forty pilots will be examined by the vessel inspectors this week. The local inspectors will commence their annual inspection of boats in this district in about two weeks. It is said that 25 of the vessels belonging in this district are now laid up in Buffalo harbor.

Capt. W. W. Stewart has been appointed inspector of hulls to succeed Capt. Danger. The appointment is a good



one and will give first-class satisfaction, both to the government and to the vessel interests. Capt. Stewart's many years residence in Port Huron has made him a host of friends who will be pleased with his new distinction.

The report that the Canadian Pacific railway is contemplating extending its line to the St. Clair river and establishing a crossing, has again been revived, and apparently with considerable of a basis therefor. It is said that an understanding exists between the Canadian Pacific railroad management and the Flint and Pere Marquette railway that in the event of the proposed extension becoming a fact, for the two roads with the connecting lines of the latter to form a combine and become a rival of the Grand Trunk for through business. The method of crossing proposed is by tunnel and the point selected is said to be from Point Edward to North Port Huron.

John M. Gillett: "I came to Port Huron 66 years ago. I have seen the town grow from a hamlet to a village and from a village to a city. The Indians have disappeared and no man lives to-day who resided here when I first landed at Fort Gratiot. The log cabins have disappeared and the only building standing to-day within the corporate limits of the city which was occupied in 1837 is the warehouse now used by Boynton & Thompson at the foot of Butler street. Old friends are laid away in Lakeside cemetery and I am the only one left to tell the tale of former days, recite the brave deeds of the early settlers and to pay taxes and water rates to-day. I could write a book and not half try."

#### DETROIT.

*Special Correspondence to The Marine Record.*

The Majestic Transportation Co., with a capital stock of \$80,000, and the St. Clair Navigation Co., capital \$50,000, were incorporated in Michigan Tuesday. The incorporators of both companies are Timothy Hurley, John H. Walsh and Daniel M. Hurley.

The Detroit, Belle Isle and Hudson Ferry Co., are preparing for a very busy summer. The company expects a big business to their down-river resort, Bois Blanc Island, and the Fortune, now being thoroughly overhauled, refitted, etc. will probably be added to the steamers on that route.

The taking of testimony in the suit of Thompson Smith's Sons against the steamer Tuscarora was completed in the United States district court this week, Judge Swan decided the case by ordering a division of the damages, the latter to be ascertained. The Tuscarora collided with a raft in tow of the tug Balize last October, off Thunder Bay Island, and the owners of the logs filed a libel claiming about \$6,000 damages.

The Detroit Dry Dock Co. has under consideration the construction of a dry dock 550 feet in length or upward of 100 feet longer than the present largest dock. A 500 foot steamer, and lake builders are fast getting along toward that length, can't dock in a 500 foot dry dock. So an extra fifty feet is allowed for docking purposes. Of course there is no telling, but it does seem as if the limit in length had already been reached in the 475 feet steel lake cargo steamers.

The postoffice department has made a four years' contract with the Star line for carrying mail to the Flats. Mail will be delivered once a day from the beginning to the close of navigation, and twice a day from June 1 until Oct. 1. Authority has also been granted Postmaster Dickerson to charter the Florence B. for a term of four years, for delivering mail to passing steamers. The contract calls for \$18 a day instead of \$15, as in the past, but the boat will be overhauled and new machinery put in to increase her speed up to sixteen miles an hour.

The Detroit, Sandusky and Canada Car Ferry Co. has been organized for the purpose of operating a freight ferry line between Sandusky and Detroit. The Columbus, Sandusky and Hocking Railway is interested in the company to the extent of furnishing freight to the boats. Plans for the organization of the company have just been completed and as soon as some incidentals regarding the business of the line are closed officers will be selected. This will be done in a few days.

A report has been floating around here this week that two local men are organizing a company to build two 425 foot steel side-wheel steamers to be placed on the line between here and Buffalo. It is further said that \$700,000 of the million dollar capital has already been subscribed for. The round trip is to cost \$5 and a passage either way is to be made in eleven hours, furthermore, they are to be ready for work this fall. A part of the foregoing is simply romancing and the rest pure untruths, that is if there is anything pure about lying, for someone must have started it.

The Yakima-Helvetia collision was heard this week in the United States district court. The two vessels came together in the St. Clair river, about five miles below Marine City, June 12, last. The Wilson Transit Co., the owners of the Yakima, allege in their libel that the Yakima met the steamer George Presley, having in tow the disabled steamer Henry J. Johnson and schooners Helvetia and Nellie Redington, just as the Presley pulled out and started to swing around to come down the river. The Yakima passed the two steamers in safety, but the schooner forced her into the mud on the American side and scraped along her starboard bow. Damages amounting to \$4,500 are claimed.

Papers have been filed here for a limited partnership to be known as the Wolverine Fish Co., limited, of which E. A. Davis, of the Davis Fish Co., will be president and general manager. This company is organized, Mr. Davis says, to compete with the trust and will operate directly with the

Buckeye Fish Co. of Cleveland, which was organized by E. R. Edson. Mr. Davis also asserts that the Buckeye Co. is to stand sponsor for similar companies to be organized to compete with the trust in St. Louis, Buffalo and probably Cincinnati. The Wolverine Co. will immediately undertake the erection of a large cold storage plant to be located here. Mr. Davis was conspicuous as one of the promoters of the trust but latter withdrew.

It is quite correct that 70 cents was offered on season contract ore here a few days ago, a figure that is 10 cents above the opening rate and 5 cents better than the latest bulk of charters at Cleveland. The circumspect owner that did not rush in with the flock and fix his boats at the 60 cent rate will clear a handsome margin each trip on the 10 cent advance. The opening rate was too low, except perhaps, for the six to seven thousand ton craft, and while owners were fully aware of the fact they jumped at the first figure offered, as they thought at the time, so as not to get left, too much attention had been directed to the large fleets handled by the mine-owning firms until it was half felt that they could carry almost the whole season output of ore and so it was a case of placing outside boats at the earliest opportunity, this was done, to the chagrin of a few owners at the present time.

Manager Bielman, of the Star line's steamers, says that he does not expect that navigation to up-river points will open much before April 1. The first steamer started last season on March 20. The steamer Arundell is being fitted up and will be ready to go on the route just as soon as the ice will permit. The steamer Greyhound, whose engine went through itself last season, will be ready for business. She is now at the Hodge's, The Riverside Iron Works, where her new engine was built. It is one of the best that the company ever turned out, and is now in place. There still remains considerable work to be done on the new feathering wheels. The owners of the Greyhound have spent over \$30,000 putting the steamer in perfect condition, and she will probably be one of the most popular boats on the river this season. The new feathering wheels will add greatly to her speed, probably in the neighborhood of two or more miles an hour.

#### FLOTSAM, JETSAM AND LAGAN.

The Western line's new package freighter Buffalo will be 402 feet keel, 50 feet beam and 28 feet deep.

Capt. C. W. Howard, who for many years was captain of the schooner Seaton, died at Henderson, N. Y., March 8.

Shenango No. 1 is again free, after a four weeks' imprisonment in the ice between Port Burwell and Long Point, Lake Erie.

All the grain tonnage at Chicago is under charter. The rate on corn is 3 cents, as against 2 cents a year ago, and there is already a scarcity of room in the elevators.

J. R. Booth, the Ottawa lumber and railway magnate, thinks that an all-winter freight steamboat service between Chicago and Parry Sound is among the possibilities.

J. J. Hill, of the Great Northern Railroad, has returned from the Pacific coast. He says the business outlook in the West is excellent, the great trouble being that there are not enough ships on the Pacific coast to transport a quarter of the product of the country.

It is reported that the Great Northern Transit Co. and the North Shore Navigation Co. are about to amalgamate. The companies have been operating together for the past two seasons, and it is supposed the object of amalgamation is to reduce management expenses. Both are Canadian lines.

The fifth issue of The Head of the Lakes, published the 5th and 20th of each month, under the editorial management of Mr. C. D. Skillings, shows very creditable work in presenting industrial news, and a gratifying growth in advertising patronage. There is a field for such a publication, and the Head of the Lakes gives promise of filling it satisfactorily.

There are four facts which should engage the attention of sailors in the recent terrible weather in the Atlantic. First, the fact that in attempting to tow the injured vessels the hawsers almost invariably parted; second, no attempt seems to have been made to use a sea anchor; third, the method of smoothing the seas by the use of oil, and, fourthly, the advisability of sticking to the ship in preference to leaving her.

The contract for building the foundation of the new 3,000,000-bushel steel grain elevator at Superior has been let. Its location will be on the site of No. 1 coal dock, now occupied by the Northwestern Fuel Co. The elevator will be modeled after those in Buffalo, but 500,000 bushels larger. The excavation for the foundation will require the removal of 70,000 cubic yards of material and the driving of 30,000 piles.

Mr. Leander Burdick, owner of the steamer Panther, has re-appointed Capt. A. W. Stalker to the command of the Panther. The season of 1898 was Capt. Stalker's first in charge of a steamer and his services were so satisfactory that the owner lost no time in again appointing him. Capt. Stalker is a comparatively young man, but is well and favorably known from one end of the lakes to the other. His many friends are pleased over his success and re-appointment.

Captain Benson, who lives up at the head of the bay, tells of a couple of muskrats taking refuge in his barn and sleeping with a pig during the recent cold spell. The rats had a large lodge built on the ice in front of his place where they had thrown up a mound of seaweed, clams and crabs,

but just prior to the breaking of the Arctic wave, the couple most judiciously sought warmer quarters on the shore. After becoming pretty well starved out they became as tame and meek as kittens, and would come out and eat with the pig. —The Advocate, Sturgeon Bay, Wis.

The business to be transacted at Lorain this year promises to be larger than is generally known. Besides the ore which the steel company will receive, the C. L. & W. will ship more coal and receive more ore than ever before. In speaking of the business of this coming season Mr. Pierce, the C. L. & W. agent, said: "Our business next year will be larger than ever. We have already contracted with four mills for receiving ore and of this amount I think we will ship about 50 per cent. to the mills direct. The coal business, I have reason to believe, will be very good and our output will amount to a good many thousand tons."

The Navy Department has abandoned all hopes of the recovery of the armored Cristobal Colon, sunk in the battle of July 3. Engineers representing the Swedish Wrecking Company, who inspected the wrecks, have returned to Stockholm without making any proposition to the department, and it is assumed from this that no action will be taken. From present indications, therefore, the only ships added to the service as a result of the campaign in the Atlantic ocean will be the Reina Mercedes, now undergoing repairs at Santiago, preparatory to her voyage to Norfolk, and the gunboats Alvarado and Sandoval.

Receipts of all grain last week at Duluth amounted to almost 1,600,000 bushels. The wheat receipts alone amounted to 911,145 bushels. Of corn, 411,859 bushels were received, and the receipts of oats were 218,574 bushels. Other grain receipts were, in bushels: Rye, 11,315; barley, 25,039; flax, 11,506. Wheat shipments amounted to 813,477 bushels, the amount going to the mills amounting to 77,044 bushels. Corn shipments were 2,406 bushels, and of barley 514 bushels. Stocks of grain in store, in bushels, are as follows: Wheat, 8,689,953; corn 5,015,106; oats, 2,022,279; rye, 275,829; barley, 450,029; flax, 1,101,779.

The Duluth correspondent of the Black Diamond says that none of the coal men at the head of the lakes believe that the total stock of hard coal at the head of the lakes exceeds 25,000 tons. This means that the docks will be scraped bare before navigation opens even should the weather continue moderate. There is little likelihood of another prolonged cold spell for March is well under way. The month of March has, however, seen some sharp cold spots in this Northwest. The supply of stove coal is practically gone, the last of it disappearing the last week. The nut size is all gone although a little is screened out. This leaves nearly all of the stock of anthracite on hand egg coal.

The failure of Baltimore, Md., to subscribe \$1,500,000 towards the \$3,000,000 required to build the shipbuilding plant and dry docks, which Mr. Henry C. Morse, formerly president of the Harlan & Hollingsworth Co., of Wilmington, Del., would have assured the location of the industry at Baltimore, has not discouraged those who have invested. The stock has been pledged and the decision as to the location will be made within a few days. Baltimoreans subscribed nearly \$1,000,000 towards the fund and will be largely interested in the company wherever it locates. Messrs. Nelson Perin, John K. Cowen, Harry A. Parr, B. N. Baker, Michael Jenkins, Geo. C. Jenkins, Harry Walters and others are still working for Baltimore and hope to land the prize.

One of the two or three remaining oldest seamen on the Great Lakes died at his home in Hamilton, Ont., last week. Capt. John Malcolmson was 83 years of age and had been a sailor ever since boyhood. He was born in Long Hope, Orkney, Scotland, and was of a sea-faring family. In 1849 he commanded the schooner Princess Victoria, which he sailed for six years. In 1855 he sailed the John Hessen; in 1856 the John Ray; in 1857 the brig Orkney Lass; from 1860 to 1868 the bark Malta, and from 1868 to 1881 the schooner New Dominion. He had a reputation as a careful pilot and navigator, and in all the years of his sailing never was wrecked. He retired in 1881. Deceased leaves only one son, Mr. J. W. Malcolmson. Mr. John Malcolmson is a brother and Sam Malcolmson, of the Singapore, is a cousin.

#### VESSELS CLASSED.

Vessels classed and rated in the "Record of American and Foreign Shipping," by the American Bureau of Shipping, this week, are as follows: British screws, Anselm and Olympia, owned by S. Oterie, of New Orleans, La.; American ship, Cyrus Wakefield, owned by John Rosenfeld & Sons; barkentine, Bonny Doon, and bark, Lottie Moore.

#### VESSEL TRANSFERS.

The following vessel transfers have been recorded at the Grand Haven custom house:

Steamer N. McGraft, one-half interest sold by Wm. E. Parsons to Ed. Hunter, of Muskegon; consideration \$400. Schooner E. Scoville, sold by S. Brensten, of Milwaukee, to Mrs. Lucy Rath, of Ludington; consideration, \$700. Steamer Elva, one-half interest sold by J. F. Keightley, of St. Ignace, to Geo. D. Arnold, of Mackinaw; consideration, \$3,000. Steamer Eleanor, sold by Hosea W. Rogers, of Saugatuck, to Leonard A. Robinson, of Montague; consideration, \$1,600. Steamer M. & M., sold by D. H. Leahy et al, of Two Rivers, Wis., to F. A. Sears, of Saugatuck; consideration, \$1,700. Schooner J. L. Higgin, sold by James M. Thompson et al, of Charlevoix, to G. C. Gerken; consideration, \$900.



## COASTING A NEGLECTED SCIENCE.

(COMMUNICATED.)

If any proof were needed to establish the fact that coast navigation is a neglected science, the numerous strandings of vessels in thick weather are in evidence; from the big ocean liner to the small fishing smack there is no exception to the rule. This humiliating fact would long ago have been made the subject of inquiry, but for the opinion prevailing that navigating a vessel in the vicinity of land requires less skill and study than navigating her on the high seas, a mistake on account of which maritime countries have been losing millions of dollars annually in vessel property, the lives involved in the calamities not counting, because of having no commercial value.

Coasting has always been considered an inferior branch of navigation, requiring no scientific study, because in clear weather, with land in sight, a familiarity with the coast is sufficient to keep clear of dangers and find the place the ship is in. But when land is out of sight, as in thick weather, the difficulty of keeping track of the vessel and of clearing dangers comes in, a difficulty increased by the lack of proper training and the lack of proper instruments aboard ships.

On the great expanse called ocean, vessels are exclusively guided by astronomical observations, compass and log serving only as a makeshift during the intervals between observations, and therefore no great precision is required of them. The reckoning by compass and log on the high seas, significantly called "dead reckoning," furnishes only approximately the place the ship is in, because the correction for current, as a rule, is wanting. But such vague estimates do not insure the safety of vessels in the vicinity of land where the utmost precision in courses and distances is required, in order to avoid dangers, a precision not attainable by the instruments in use.

Compasses of vessels, as a rule, are adjusted for deviation, but the residual errors are seldom ascertained with sufficient accuracy, a neglect affecting courses more or less. The principal error, however, in the reckoning for the place the ship is in, is produced by the exclusive use of the patent log, because of its following defects: First, the patent log does not indicate the direction in which the vessel moves over the ground, but only the direction in which she moves over the water. Secondly, the patent log does not give the distance run over the ground, but only the distance run on the water. The reason for these defects is, that in a currents vessel and floating log both partake of the motion of the water. Thus, it is plain that by using the patent log the true place the ship is in can not be found, and that in thick weather vessels using the patent log get stranded.

There is but one remedy against this evil and this remedy is the ground log.

The ground log consists of a heavy weight attached to a line divided into a forerunner of from 50 to 80 fathoms, and a sufficient number of knots of 25 feet length. After the weight is lowered to the bottom of the sea and the forerunner is out, the counting commences, and the knots running out in 15 seconds give the vessel's rate of speed per hour in nautical miles, requiring only a small tabular correction for depth of water. The direction of the ground log line invariably indicates the ship's course over the ground, and the angle which the line makes with the ship's keel, applied to the magnetic course the vessel is headed on, furnishes the magnetic course made good. Hence, the true course made good consists of the following four elements: 1, the compass course steered; 2, the deviation; 3, the correction for leeway and current combined, equal to the above mentioned angle with the ship's keel, and 4, the variation. The ground log, although its use is confined to comparatively shoal water 50 fathoms and less, is the only log correct in principle and not influenced by currents; its great value consists in pointing out and controlling at all times the course made good, and giving correct distances. Strangely, this valuable and indispensable instrument is not found aboard of any vessel, which partly explains the great number of strandings in thick weather.

Besides the ground log, the lead plays a prominent part in coasting, but its judicious use is very little known. It is not the indiscriminate casting of the lead on any course run, the practice in general use, which insures safety and prevents deception, but the shaping of courses and taking of soundings with regard to leading features of the ground, easily picked up and followed by compass and lead.

The bottom of the sea or lake is most conveniently represented in charts, or should be represented, by horizontal cuts or curves at different distances from the surface of the

water, which curves may be used in thick weather as general safeguards against stranding, as guides, and as a means for finding the place the ship is in. A continuous curve of equal depth, including all dangers to navigation along a certain part of the coast and passing the danger nearest to the curve at a safe distance, is called a safety curve. For, by keeping the vessel in no less water than the depth of the safety curve indicates, stranding is prevented. Thus, the safety curve is a sure indicator of the boundary up to which a vessel may safely proceed. Furthermore, the safety curve, or any other curve of greater depth, may be used as a guide, especially in thick weather, and it is the straight parts of such curves which furnish reliable lines of position under all circumstances. Such a line followed up by compass and lead and continued over its tangent point will cut some other curve of different depth, the point of intersection invariably furnishing the true place the ship is in. Similarly, two nearly concentric curves afford the means for verifying position. For, a tangent to the inner curve, followed up by the vessel by means of the compass, will cut the outer curve in a certain point, and thus furnish the place the ship is in; compass, ground log, lead and chart assisting one another in the operation.

The study of problems of this description, on the correct solution of which frequently the safety of a vessel in thick weather depends, is thoroughly neglected.

As a matter of course, the lead is of no use where the bottom of the sea is nearly a level plane devoid of leading features. But those and similar deficiencies have to be made up by artificial aids in appropriate places approachable by vessels close to, in the choice of which aids and places sometimes serious mistakes are made, because the study of coasting in thick weather is neglected.

What astronomical observations are on the high seas to find the place the ship is in, are soundings in thick weather near the coast; and the study of combining and using them to advantage is of far greater importance than the study of nautical astronomy, because of the nearness of the dangers vessels have to contend with in the vicinity of land.

That coasting is a neglected science is evident from the use in thick weather of a defective log and of soundings without system and a reliable basis, all of which inevitably leads to disaster, the numerous strandings of vessels in all parts of the world in proof thereof. JOHN MAURICE,

Civil Engineer and Nautical Expert.

Chicago, March 15, 1899.

## EASTERN FREIGHT REPORT.

Messrs. Funch, Edye & Co., New York, in their weekly report of the Eastern freight market to the RECORD, state as follows: "Steamer freights to Cork f. o. have not maintained the rate of 3s. 3d. established during the latter part of February, and we regret to have to report a decline of 3d., at which figure vessels are now offering without finding takers from Range of loading ports. The demand for large prompt boats to picked ports appears to have been filled, and we must trust for a revival towards the end of the month, without which, in view of the continued decline in berth freights, prospects for such tonnage look anything but reassuring. The declining tendency in time charters has, to some extent, been availed of by fixtures for short periods, in some cases covering Trans-Atlantic trip and back only. The demand for timber boats from the Gulf has somewhat slackened, in consequence of recent fixtures, and the demand for steamers for general purposes is inactive. The fixture of a steamer for case oil to Hong Kong shows an advance in freights, and there is still some enquiry for steam for Eastern points on equivalent terms.

The demand for sailers for case oil cargoes to the East remains fair, and we learn of several charters at full, but withheld for the present. There is also still a good enquiry for general cargo ships to the Colonies at former rates, but in other lines there has not been much movement, as rates are maintained and tonnage continues scarce.

## THE PRODUCTION OF IRON AND STEEL.

At the February meeting of the British Institution of Civil Engineers, Mr. W. H. Preece, C. B., F. R. S., president, in the chair, the paper read was on "The Lake Superior Iron Ore Mines, and their Influence upon the Production of Iron and Steel." The address stated that: Exports of these products from the United States to the United Kingdom were growing annually, amounting in 1898 to over 50,000 tons of pig iron and nearly 30,000 tons of unwrought steel. The paper embodied the results of investigation by the authors into the routes of ore-ships, the methods of

loading, unloading, and transportation of the ore to blast furnaces in the Lake Superior iron ore region.

A comparative table of the estimated costs of producing pig-iron at Pittsburgh, Pa., and Middlesbrough, England, seems to show that at the former place the cost was probably about £1 8s. 9½d, and at the latter about £2 8s. 10d. A comparative table of selling prices showed that in steel rails, steel ship plates, and steel billets and blooms, Pittsburgh prices were considerably below Middlesbrough prices. The authors believed that Lake Superior iron ores, aided by Pennsylvania fuel, were likely to have a permanent effect in cheapening iron and steel throughout the world, and should tend to encourage the production of such goods, and especially of ocean-going ships and engines in the United States ports to an unprecedented extent.

## GULF OF ST. LAWRENCE WINTER NAVIGATION.

Considerable interest has been evinced regarding the Anglo-Canadian line of Atlantic steamers which was to maintain winter navigation in the Gulf of St. Lawrence or between Paspebiac, the terminus of the Bay of Chaleur Railway, and Milford Haven, South Wales.

The steamer Gaspesia, an iron vessel of 4,000 tons, owned by the Canadian Steamship Co., is at this writing hemmed in the ice near Magdalen Islands while bound from Paspebiac to England via St. John's.

Paspebiac has an excellent harbor and the distance between that port and Milford is only 2,206 miles, whereas, from Halifax to Liverpool is 2,431 miles and from New York to Liverpool, 3,023 miles. Paspebiac was also chosen as the Canadian port because, according to the London Times of December 9, "It is free from ice all the year round." "The great point," The Times added, "is freedom from ice, for the indispensable equipment of a port—elevators, abattoirs, etc.—can be set up in a port free from ice with profit when it would be folly to erect them in a port which must perforce be idle for many months in the year."

A special correspondent of the Toronto Globe, March 12, writes an excellent article on winter navigation of the Gulf in which he quotes expert opinions as follows:

Gulf navigation is impracticable after the 10th and 15th of January. Now and then, one year in ten or twenty, it might be possible to get in and out of the Baie des Chaleurs after that date; but, speaking generally, the winter navigation of the Gulf, as a commercial enterprise, is out of the question. Sealing steamers are built entirely of wood and are of extraordinary strength. The Terra Nova is 11 feet 6 inches through the bows. Her wood is the best English and African oak. The Bruce is an iron vessel, encased in 30 inches of greenheart, with double bow-plates and a frame of extraordinary thickness. These two ships, or others of a similar type, might, perhaps, succeed in navigating the Gulf after the middle of January, but it would not be navigation in the true sense of the term, and passengers bound for Europe would scarcely venture their lives on such a journey. When sealing steamers are caught in ice they employ dynamite, ice-saws, ice-axes, etc., in forcing their way out, but a passenger ship could not very well resort to those methods. An ocean passenger steamer, moreover, would not be so manageable in a field of ice as a sealing steamer, which usually does not exceed 350 or 500 tons burden. That the harbor of Paspebiac is usually free from ice goes for nothing. Hudson Bay is free from ice when the strait or the mouth of the strait is completely blocked. This is a hard winter, but the Gulf could not be navigated by a passenger ship in the mildest."

Capt. William Bartlett, who has just sailed with his steamer, the Hope, for the sealing grounds near the Magdalen Islands, has been going to the Magdalen Islands for years, and says: "I agree with Capt. Delaney and the rest that the winter navigation of the Gulf as a commercial enterprise is impracticable. More than once I have been unable to get into the Gulf from this side, owing to the vast sheets of ice running out of it past Cape Ray. By this I mean that I went to Cape Ray and could not enter till the sealing season was over, losing my voyage. This, I think, will convince most persons that as a winter passenger route the Gulf route is hopeless. I shall have an eye for the Gaspesia. My impression is that she will have to remain in the ice till spring. She runs a great risk, of course, of being crushed. She is not particularly strong, and her commander is not likely to have had much experience of ice work." Modern science works new miracles every day, but there are some things which baffle it, and the winter navigation of the Gulf is perhaps one.



**AIR BAGS FOR RAISING SUNKEN VESSELS.**

The president of the Mineralized Rubber Co., of New York City, which company's advertisement of air bags for raising sunken vessels will be found in another column of the RECORD, informed us in an interview that he has been interested in this method of ship salvage for over 40 years. That 30 years ago he had opportunity to try the matter on a large scale, but that after making a quantity of the bags, the vessel which they were intended to raise went to pieces, and that experimentally, were of so small total lifting capacity, that no commercial use was ever made of them.

The great first cost of the outfit prevented its being got up until opportunity came as opportunity always does come to those who can wait with the destruction of the Spanish fleet in Cuba, and Hobson, when entering into contract with the United States Government for the rental, the Mineralized Rubber Co. constructed at a cost exceeding \$40,000, 2,000 tons lift of the bags, and after floating the Maria Teresa (afterwards lost), and raising the Reina Mercedes, have got the bags (except a portion not recovered from the Teresa) in store ready to let out on moderate rental, for raising submerged craft.

The Reina Mercedes is a steel cruiser of 3,000 tons displacement; she was built in Cartagena in 1887; she is 278 feet 10 inches long; beam, 42 feet 7 inches; draws 16 feet 5 inches of water; her engines are 3,700 indicated horse-power. Prior to the bombardment, her boilers had given out and were practically useless. Of late years the Reina Mercedes was used as a transport.

The conclusions of the president of the Mineralized Rubber Co. were very carefully checked, and in some cases altered by Lieut. Hobson, who for two months was engaged in experiments ordered by the Navy Department, who engaged one of the largest wrecking companies in the United States to assist, and were supplemented by ideas and suggestions of the wreckers until the bags now offered for rental present the nearest approach to perfection that the present knowledge of the subject allows.

The bags are of various sizes, principally of 15 feet long by 6 feet diameter, representing a lifting power of 12½ tons, weight 200 lbs. each, and fold in space 15 ft. x 2 ft. x 4 in. They are made of rubber compounded of a density that sinks slowly in water so as to be easily controlled by diver while being lowered; are fitted so as either to be attached to the frames of wreck, or laid loose beneath decks to the extent of the decks' lifting resistance, or placed in such other positions to which the flexibility easily enables them to conform as may be available, and when sufficient are in position, are inflated from the surface. They are fitted with relief valves, air cocks, etc., and some are enclosed in a sort of balloon net work.

By the use of the bags the Mineralized Rubber Co. claim that a single diver with row boat and assistant can, without aid or pumping easily raise moderate sized wrecks, and when same are raised, that no patching or repair is necessary before the wreck is docked. All this at a cost of perhaps one-tenth of ordinary wreckers' charges.

**CORROSION OF RIVET HEADS.**

Dealing with the work done by Dr. Walter in his experiments on the corrosion of rivet heads, Dingler's Polytechnisches Journal says there are a number of theories extant which endeavor to account for the corrosion of rivet heads in boilers, tanks, &c. It is a well-known fact that the heads of rivets show much greater evidence of corrosion than the plates that are held together with them. One explanation advanced to account for this is that steam is generated faster at the rivet heads, and the film of oxide which coats the iron is continually destroyed. Unfortunately for this theory the facts do not bear it out, as the rivet heads of tanks not exposed to heat go just as quickly as those which are. Another theory to cover such cases as riveted steam pipes, tank covers, etc., supposes that the radiation of heat from the rivets is stronger than from the main body, and hence moisture collects on the rivet heads, and drops form at the under side, which means eventual destruction. In the case of the interior of food-water heaters, the dissolved air separating from the water is supposed to oxidise the projecting heads. Dr. Walter has shown that the action of steam is similar to a sand blast, and may even produce perforations; and another theory is based upon the fact, but would seem improbable in all but extreme cases where the steam can impinge upon a rivet head directly and with considerable force. Again, the scouring action of suspended matter is supposed to account for most of the trouble. All these theories may have some foundation in fact, but are not conclusive enough to

satisfy those conversant with the subject. For instance, the experiment was made of filling an open tank with brine and the rapid corrosion of the rivet heads noted when it was left to stand cold, while no action resulted in another tank in which the brine was boiled. Again, another tank was used for boiling a strong solution of sal ammoniac, with the result that the rivet heads in it were eaten off completely, while the plates were but slightly affected. Dr. Walter explains this occurrence as follows: The tank steel and the rivets are of a slightly different composition; this difference is sufficient however, to cause a very weak current of electricity to be set up leaving the rivets electro-positive to the balance of the tank. Electrolysis results, the rivets go, and actually protect the plates. The final suggestion is made that galvanometric measurements be made to learn something definite along this line of investigation, and doubtless much of value will result.

**MARITIME LAW.****THE STRATHDON.**

(District Court, E. D., N. Y. July 22, '98.)

**SHIPPING—LIABILITY OF SHIP OWNERS—INJURY TO CARGO BY FIRE.**—Sugar in baskets, placed on plank on the iron floor of the between-decks of a steamship, was ignited by the heat of the flue of the donkey boiler in the stokehole bulkhead immediately beneath it. The top of the flue was 18 inches from the floor of the between-decks, and intervening was a system of baffle plates. The ship and her machinery were constructed by competent builders, under the survey of Lloyds' Register, from whom she had received the highest rank for hull and machinery. She had been for three and one-half years in active and varied service, had been repeatedly surveyed, and numerous experts testified that her plan was in accordance with the known and practiced devices for safety, while there was no evidence of other or better systems of protection against fire. Held, that the fire was not caused by the design or neglect of the ship owners, and that such owners were not liable for the cargo injured or destroyed by the fire.

**SAME—PROXIMATE CAUSE OF INJURY.**—During the flooding of the hold to extinguish the fire, the ship grounded in the Suez canal, and listed, so as to allow water to flow through a pipe without a stop valve, leading from the bathroom of the captain's cabin, and to find its way into one of the holds. Held, that the fire was the proximate cause of the injury to the cargo in such hold, and that the ship owners were not liable therefor.

**SAME—DELAY OF VESSEL FOR REPAIRS—DECLINE IN MARKET VALUE OF CARGO.**—The ship was delayed necessarily for six months for repairs, during which time the cargo owners and underwriters, to whom abandonment was made, although fully apprised of the condition of the ship, made no demand for the trans-shipment and forwarding of the sound portion of the cargo, and the cargo owners apparently acquiesced in the delivery of the goods by the ship, while the underwriters simply stated that they should hold the ship responsible for the delay, but declined all propositions of the carrier for expediting the delivery. Held, that the cargo owners, or their successors in title, were not entitled to recover damages for decline in the market value of such cargo on account of the alleged unreasonable delay in delivery.

**SAME—ACTION FOR LOSS BY FIRE—BURDEN OF PROOF.**—Ship owners are not liable for injury to the cargo by fire, unless the cargo owners prove by a preponderance of evidence that the fire was caused by the design or neglect of the ship owners personally.

**SAME—DELAY OF VESSEL FOR REPAIRS—DETENTION OF CARGO—NOTICE TO OWNERS.**—When a ship becomes unfit for navigation from a cause which does not involve a breach of duty on the part of the carrier, and it is necessary to interrupt the voyage for the purpose of repairs, the master may detain the cargo until such repairs shall have been effected, but, if reparation be impossible or impracticable within a reasonable time, it may be the duty of the master to use suitable effort to find and employ facilities for trans-shipment and forwarding the cargo to its destination; but if the owner of the cargo has means of information of the nature of the injury to the ship, and of the opportunities for repairs, and of the probable delay, he may be estopped by his acts or acquiescence from claiming damages to the market value of the goods arising from such delay.

The Journal of the American Society of Naval Engineers (Washington D. C.) for February contains articles upon "Electrical Propulsion for Torpedo Boats," by Prof. W. F. Durand; "Automatic Stokers for Marine Use," illustrated; "Ericsson's Surface Condenser and Evaporator," by Chas. H. Hasswell; "Early Steamboats," by Geo. W. Baird, Chief Engineer, U. S. Navy, etc.

**CORRESPONDENCE.**

We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

**AN EX-COMMISSIONER OF NAVIGATION ON THE OUT LEGISLATED HANNA-PAYNE SHIPPING BILL.**

DENVER, COLORADO, March 14, 1898.

To the Editor of the Marine Record:

You will note that the shipping bill called the "Hanna-Payne" has failed to command the action of Congress. A correspondent at Washington, writing to his paper, says of this matter: "The marine subsidy bill failed for want of time to consider it and from lack of confidence in those who were pushing it." Discussion would have killed the bill. What little was said on the outside, particularly as to the cost, was well calculated to break its back. The amendments made after it was on the calendars of both Houses show its weakness and the mistaken principle on which it is drawn. This is not protection, but free trade.

My studies in connection with the "Farquhar shipping bill"—navigation bounties—taught me that it is utterly impracticable and, therefore, wholly inexpedient to rely upon Congress passing and the people supporting any shipping legislation on the "compensation" principle for the building up and maintenance of an American marine in the foreign trade. This is simply because anything like adequate bounty will cost too much. How much the H.-P. bill would cost was only guessed at. Under the provisions and terms of the bill it is practically the tonnage of arrivals and clearances in the foreign trade that will be paid "compensation." On this basis all the tonnage in the foreign trade, if American, would be entitled the first year to \$40,000,000 and over. Arrivals and clearances for 25 years past have increased at the rate of 6¼ per cent. on the average. Forty millions in 1900 would become 80 in 1916, 120 in 1932, and so on. At such a rate of expenditure for the entire marine, what will 10, 20, 30, 40, 50, 60, 70 or 80 per cent. of it amount to? And what percentage will the people want at such a rate? We have only to use a little stock of common sense to see that "compensation" is the wrong tack—in fact, a tack ashore.

This being pointed out, an amendment has been proposed to limit the expenditure to \$9,000,000. This is to reduce "compensation" so low that there will be practically nothing in it. The horse that was turned out from a good pasture to a poor one, and then to a poorer one got well educated to "short commons," but when he was finally put to pick up the moss from the bare rock he died.

I have advocated the plan of regulating our trade and transportation for the restoration of our shipping to the sea, because it is the only one feasible and certain. The government need not be called on for a dollar that has not been first put into the Treasury by the operation of a proper and well adopted law. This plan will build up the marine and maintain it afterward while our flag flies. It is the only one that will do it, and the one that will have to be adopted. That is not all. It is the plan of the Republican platform, and will be voted for, not as a partisan measure, but as a patriotic one by men of all parties, because it was the plan of our fathers. The coasting, lake and river trades to-day are American in root and branch, because the fathers knew statesmanship from temporizing craft, and regulated foreigners out of these trades. The Hanna-Payne bill can not be dropped too soon, as a piece of folly, as dull as a hoe.

Yours truly, WM. W. BATES.

ADMIRAL SAMPSON has written for the April Century an illustrated article fully describing the work of "The Atlantic Fleet in the Spanish War," and drawing its lessons. The more important features of this paper are a plan setting forth the character of the blockade of Santiago harbor; maps showing the relative positions from day to day of Cervera, Schley, and Sampson; and a series of bird's-eye plans of the engagement of July 3, showing the positions of vessels at different stages of the fight. In a foot note the Admiral tells this good story. "As we passed the Teresa and Oquendo, a Spanish sailor was seen struggling in the water on the seaward side of the New York. In response to his calls for help, one of the crew seized the chaplain's reading desk, which was stowed on the main deck in the passage between the two cabins, and which had a cross showing on it. As he did so, he cried out grimly, 'Cling to the cross and you'll be saved!' The Spaniard followed instructions and was saved."





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## THE SEASON TRAFFIC OUTLOOK.

There is every indication for a brisk and fairly prosperous season of navigation, and it can already be seen that season charters had been effected too far in advance. As the time for the opening of navigation approaches, freight rates are advancing and better terms are offered on almost all classes of bottoms.

Grain carriers to arrive at the head of Lake Superior continue in good demand and tonnage to move upwards of 500,000 bushels of wheat was placed this week at 2½ cents. The feeling is strong and some owners predict an advance over this rate will be made before the opening. Stocks at Duluth are very heavy and receipts of all kinds of grain amount to about 1,500,000 bushels a week. There is now about 17,500,000 bushels of all kinds of grain and stocks are increasing so that before the middle of April there will be absolutely no room in the elevators in which to care for the grain that may be seeking an outlet via Duluth and Superior. The nominal capacity of the elevators is 24,000,000 bushels. About all the tonnage at Chicago is under charter and the elevators there will also be badly crowded before the fleet arrives. Shippers from Lake Michigan ports have taken but little grain tonnage to arrive, but Chicago brokers have within the past day or two notified local owners that they are hopeful of getting 2 cents for corn.

So far as the lumber trade and transportation is concerned the prospects for the season are very encouraging. The prices on good lumber have advanced from \$1 to \$2 per 1,000 feet and on second grade lumber \$1 or more. About one-third of the Menominee river cut for 1899 has already been sold, and large sales are reported almost daily. Already over 100,000,000 feet of this year's prospective cut has been sold. The Kirby Carpenter Co. has sold 50,000,000 feet. The Paepcke & Leight Co., of Chicago, purchased nearly 20,000,000 feet of this firm, and Chicago, Detroit and Buffalo parties have purchased 30,000,000 feet. Perley Lowe & Co., who purchased the season's cut of the H. Witbeck Co., amounting to 35,000,000 feet, have sold about 22,000,000 feet of this season's cut. The M. Burns Co. has sold about 20,000,000 feet to the Foster Lumber Co., of Milwaukee. Although very few lumber charters for the season have been reported, about all the regular lumber carrying tows have been engaged. More business, perhaps, was done at the head of Lake Superior, but other shipping ports will be busy, as the following dispatch from Menominee will show: Perley Lowe & Co. of this city sold 17,000,000 feet of good lumber to Skillings, Whitney & Barnes, of New York. The deal involves over \$550,000. The same company has sold upward of 30,000,000 feet of their '99 cut.

In iron ore, the entire output of the mines as well as stock piles at the mines, and ore that has been laying on the docks at receiving ports, has been gobbled up and in some in-

stances re-sold at a higher figure. Not only has all this taken place but season charters have been closed for the transportation of the ore and the short railroad haul from docks to furnaces arranged for. The Tonawanda Iron and Steel Co., which ships considerable ore from Marquette and Escanaba to Tonawanda, has during the past few days bought a number of vessels. That company has heretofore depended entirely on outside boats, and when business was active they had a great deal of trouble getting tonnage even at much better rates than were paid to Lake Erie ports. Several other deals are on and more vessel sales to that company will be announced before the close of the week.

The coal trade, from various causes, is not pressing just now, although it is known that large stocks are required. Next, shippers are most careful regarding freight rates as it would be ruinous for a competitor to pay freight rates, ten or even five cents per ton on a large shipment over that of another shipper. A well advertised, steady tariff on coal carrying charges would be a boon to all concerned and place the business from point of shipment to receiver on a proper basis. The mines are prepared to load vessels early, so that traffic can be started April 1. Coal operators expect this to be the greatest year in the history of the trade and are making great preparations to hurry shipments to the docks and not be caught in the car shortage, which is already prevalent.

## ON FOGS.

The Weather Bureau has devoted considerable attention to the investigation of lake fogs during the past season of navigation, and it may be stated that two important points have been established: First, that fog reports from shore stations cannot be depended upon since fog has been reported continuously on the lakes at times when very little has appeared at land stations; also that the wind direction appears to have but little influence upon the formation of fog which is due to changes of air and water temperatures, especially those that tend to produce a strong contrast between the temperature of the air and that of the water.

Fog may form in at least three different ways. First, where the air is cooled by rapid radiation; second, where the cooling results from a mixture of different air currents; and, third, where a cooling has been caused by an uplifting of the air. The first is the most common cause of fog formation. Radiation fog is generally formed over surfaces nearly level, when warm air comes in contact with cold ground. It must be remembered that the atmosphere is something like a great gaseous sponge. Compression and expansion are constantly going on, with resulting cloudy and clear skies and different temperatures for various layers.

Fog appears most frequently on Lake Superior, some distance from shore, where the temperatures are low and the difference between air and water temperature is the greatest. This is especially true of the region westward of Keweenaw Point, where water temperature as low as 39.5 degrees have been observed during July and August.

The reports of fogs indicate that the heaviest banks and the localities at which they are most likely to be encountered are on Lake Superior, from Whitefish Point westward to Keweenaw Point; on Lake Michigan, in midlake, from off Waukegan to the Straits of Mackinaw and over northern Lake Huron. The fog distribution on Lakes Erie and Ontario is not uniform, and fog is not so frequent as on the upper lakes.

THE total tonnage of freight that passed through the American St. Mary's Falls canal, last year was 18,184,151 tons, and the tonnage that passed through the Canadian canal was 3,020,513 tons, or a total of 21,234,664 tons. This amount represents the movement of freight both ways between Lake Superior and the lower lakes and rivers, and, of course, it takes no account of the traffic passing through the Straits of Mackinaw to Lake Michigan from the lower lakes. The greatest tonnage ever recorded in a single year on the Suez canal, the largest artificial waterway devoted to the commerce of the world, was 8,560,283 tons, in 1896. It will be seen, therefore, that the business of the two canals at the Lake Superior outlet is almost two and a half times as great as that of the Suez canal. So much for the actual figures, yet, it should be borne in mind that the Suez canal is practically 100 miles in length, while so far as the St. Mary's Falls canal proper is concerned it is little more than a case of locking through. The volume of traffic is indisputable, but relative to the mechanical work and time involved, to which the mind is so apt to revert, there is no comparison

between passing through the "Soo" lock and traversing the Suez canal, even between the "Soo" and the Welland any such a comparison would be unfair and misleading from the foregoing standpoint. If we regard the labor, time, facilities, mechanical aptitude, etc., it would take about a dozen Welland canals to do the business carried on each season through the St. Mary's Falls canal if the Welland locks were doubled in size, or rather made to accommodate Lake Superior tonnage.

It is not a pleasant fact for New York marine underwriters to grasp, nevertheless it is true, that at the present day there are only two marine companies which can lay claim to a home in New York. The Insurance Times, in commenting on the matter, says that thirty years ago there were ten marine insurance companies with aggregate assets of \$25,149,069, now there are two, one of mongrel origin, with a capital of \$200,000, and the other the old and sole veteran survivor of American companies—the Atlantic Mutual. But, instead of the other nine local companies we have the agencies of twelve foreign companies—nine English, two German and one from Switzerland. In the slang parlance of the day The Mariner, London inquires "Why is this thus?" and replies to the query by stating that this condition of things is mainly due to the destructive work of the English privateers, the Alabama and her consorts, during the war, when the mercantile navy of the United States was wiped off the face of the waters of the earth. With the destruction of American shipping in those disastrous days the local marine companies gradually collapsed. The Commercial, Great Western, Mercantile, New York Mutual, Orient, Pacific, Sun, Union Mutual, and Washington all vanished like the baseless fabric of a vision, but they did leave some wrecks behind. It remains to be seen whether American enterprise, so successful in life insurance affairs, is equal to the restoration of the marine branch of business in some measure commensurate with the increased commerce of the country.

AN ADVERTISER writes us a rather flattering letter from which we take the following excerpt: "I made one trip in the RECORD on the anniversary of your 21st birthday. This flyer brought me an order direct from a firm that we had often tried to do business with. There could be no grounds or form of suspicion as my one-time advertisement was clipped out of the RECORD and sent back to me." As a business matter we don't care to furnish the address of our correspondent in this instance and will rest satisfied with the knowledge of having added one more to our already long list of friends and patrons.

## TO DETERMINE ARCTIC CURRENTS.

A project which has been undertaken in the interest of both science and of commerce was commenced this week with the starting out of the whalers from San Francisco to the Arctic ocean. On their whaling cruise they will endeavor to secure facts about the currents and of the existence of a circumpolar current. This departure has been inaugurated by the geographical society of Philadelphia, backed by the United States government.

Fifty patent casks of a peculiar shape have been constructed in San Francisco and will be sent out on the United States revenue cutter Bear, and on the vessels of the Pacific steam whaling fleet, and on those of Liebs & Co., to be distributed in different parts of the ocean, then to be picked up when cast ashore, or by vessels which pass them later, and thus it is hoped to determine the currents of the Arctic and the theory of an open passage around the pole from the Atlantic to the Pacific. The first five casks will be taken to the north by the whalers of H. Liebs & Co. to start during the present week. Twenty more will be taken by the vessels of the Pacific Steam Whaling Co., within the next month, and the remaining 25 will be taken on board the revenue cutter when she leaves for the Arctic Bear.

Accord and Satisfaction—Settlement by Agent.—The consignees of the cargo of a vessel chartered by the consignors rendered an account to the agents of the owners of the vessel, in which they credited such owners with the freight, which was payable on delivery of the cargo, and paid the amount thereby shown, taking a receipt therefor. Held, that such settlement did not conclude the owners of the vessel as to a claim for demurrage which did not arise from any fault of the consignees and for which they were not liable, but for which the consignors were liable under the terms of the charter party. Burrill et al. vs. Crossman et al., 91 Fed. Rep. 543.



## COAST SHIPBUILDING.

Wentworth Allen, of Athens, N. Y., has the contract to build two tug boats. He has one now on the stocks in course of construction.

Three passenger and freight steamers, which will be the largest afloat in Pacific waters, will be built by the Cramps Shipbuilding Co., for the Oceanic Steamship Co. Contracts have been signed within the past week and work on the ships will begin at once. Charles H. Cramp, president of the Cramps Co., stated that each steamer will be of about 6,000 tons net. "They will be unlike any other ships anywhere," he said, "in respect to high speed and cargo and passenger accommodations. They will make seventeen knots all the time during their twenty days' trip. The cargo capacity will be 2,000 tons dead weight, independent of fuel. They will have all the modern improvements, including electric lighting, distilling and refrigerating appliances." There will also be some innovations, Mr. Cramp said, of which he did not at present care to speak. The new ships will form an important addition to the fleet of the Oceanic Steamship Company, of which John D. Spreckels is president. The first two ships of this line, the Alameda and the Mariposa, were built by the Cramps sixteen years ago. The steamers will run from San Francisco to Australia.

The United States revenue cutter building at the Columbian Iron Works for the New York station will be launched the latter part of the month, and as her machinery and boilers are about ready to put aboard her the work of finishing her up will not take long after she is in the water. She is a fine steel vessel, 188 feet long, 29 feet 6 inches beam and 16 feet depth. Her propelling power consists of a triple-expansion engine with cylinders 29, 32 and 50 inches in diameter. Steam will be supplied by two Scotch boilers. The horse-power of the engines will be 1,500, and the working pressure of the boilers 160 pounds. The steamer will carry a crew of 35 officers and men.

Capt. Robert E. Lee, superintendent, and Capt. James Lee, president of the Lee line, Memphis, closed a contract with Capt. A. Howard, of Jeffersonville, Ind., for the construction of two steamboats at a cost of \$50,000 each. The boats will be completed by June. They will be placed in the Memphis and Cairo trade.

According to the plans, the steamers contracted for are to be models of sternwheel river craft, thoroughly equipped with all modern improvements.

Steamer No. 1 is to be 200 feet long, with a 36-foot beam; depth of hold, 6 feet; engines, 17 inches in diameter, with 7-foot stroke; two boilers 32 feet long, 44 inches in diameter, with six flues. Capacity, 800 tons.

Steamer No. 2 is to be 220 feet long, with a 36-foot beam; depth of hold, 8 feet; engines, 18 inches in diameter with 8 feet stroke; three boilers 23 feet long, 44 inches in diameter, with six flues. Capacity, 1,000 tons.

Work is progressing satisfactorily on the new steamer for the Queen Anne's Railway Co., which is being built at Messrs. Charles Reeder & Sons, Baltimore, and, with good weather, it is hoped to have her hull completed in a short time. The keel was laid about a month ago, her frames are up and the work of putting on her plates will begin in a few days. The vessel will be a fine addition to Baltimore's large fleet of magnificent river and bay steamers.

## STEAM TOWING MACHINES.

Some weeks ago the Cunard steamer Pavonia became disabled, through defect in her boilers, and was drifting helplessly, when overhauled by the steamer Colorado, which took the disabled vessel in tow, but the hawser soon parted, and the vessels lost sight of each other during a gale. Later the Pavonia reached port in safety. Contrast this failure to tow a vessel, with the record of a steamer provided with a towing machine, making headway through the terrible storms that prevailed on the Atlantic coast last November, and towing several large barges, coal laden, to destination, also to the general use of the automatic towing machines adopted for heavy towing on the Great Lakes and working advantageously year after year in handling tow barges from five to eight thousand tons capacity.

The entire record of this machine is free from a single instance of a line parting, while hardly a dangerous tow has been undertaken without this aid that has not a record of one or more lines parting before the work was finished. Such practical illustrations of the value of the Shaw and Spiegel towing machine, manufactured by the American Ship Windlass Co., should bring owners of steam vessels to adopt the device. The U. S. Navy Department months ago, and Government Bureaus are not quick to act, adopted the towing

machine, and they are now being introduced on the other side of the Atlantic. The powerful twin screw Liverpool tug boats should certainly be fitted with these machines as they make ocean tows and contract to hold on to whatever they can get a line aboard of, even if it is an island.

## ASSIGNED TO THE LORD.

Third notice. Every editor has received them. The post master sends them to the editor. The postmaster is not to blame. For instance, there was a man by the name of—well, say Tim Short, who sent us three notices to stop his paper, he did not want it any longer. We wondered what was the matter. Upon investigating our subscription book we found that Tim was short \$8.50. He never had paid a cent and yet he stopped his paper as a matter of economy to us. A few evenings ago we stepped into church and Tim's melodious voice rang out loud and clear in that old soul-stirring song, "Jesus Paid It All." He might have been mistaken but his earnestness impressed us. The next day we sent a receipt in full, begging his pardon for not knowing he had made an assignment of his liabilities to the Lord.—Ex.

## TRANSFERS DETROIT VESSEL PROPERTY.

The following are some of the late vessel transfers at the port of Detroit: Steamer C. W. Wells, Edward Huebner, Jr., to Edward H. Horn and Anna M. Horn, consideration \$1,500; steamer Charles A. Street, Charles F. Lamb to William Dulac, \$1 and considerations, part, 1-32; schooner Canton, J. M. Jones to C. May Jones, \$1 and considerations, part 1-20; steamer City of Bangor, Charles A. Eddy and John Eddy to the Eddy-Shaw Transit Co., \$1 and considerations; tug C. A. Lorman, Alex. Ruelle to Alex. Ruelle, Jr., consideration \$7,000; steamer Chauncey Hurlbut, J. O. Teagan and William T. Teagan to the Teagan Transportation Co., consideration, \$18,000; steamer Companion, Jasper Ward Cook to the C. H. Little Co., consideration, \$3,000; Contaluta, Norman D. Carpenter to Alexander R. Peacock, consideration, \$1,000, part ½; schooner Edward Kelly, Tecumseh, bank, 10-24, estate of J. Root, 5-24, J. J. Freeman, 3-24, E. D. Chilson, 3-24, Isabella Bills, 3-24, to J. H. Smith and C. A. Slayton, trustee; schooner Edna, Joseph Forcier to Philomene Forcier; same schooner transferred from Philomena Forcier to F. P. Byrne, consideration, \$600; Fostoria, John A. DeGaw to A. Bouillieres, and later transferred from Donald Finlayson to Wm. Rourke, consideration \$400, part ½; steamer Huron City, T. D. Barron to Charles A. Chamberlin, 4-24, and Fred. W. Manuel, 4-24, \$1 and considerations.

## APPOINTMENTS OF MASTERS AND ENGINEERS.

THE NORTHERN STEAMSHIP CO., BUFFALO, N. Y.—Steamer North West, master, G. A. Minar; engineer, R. S. Grant. North Land, master, W. C. Brown; engineer, Jno. L. MacVicar. Northern King, master, J. M. Saunders; engineer, John O'Mara. Northern Queen, master, J. F. Vaughn; engineer, A. T. Stewart. North Wind, master, Delos Waite; engineer, Thos. Jackman. Northern Wave, master, Martin Niland; engineer, J. J. Darcy. North Star, master, F. G. Stewart; engineer, W. T. Pike. Northern Light, master, M. J. Haber; engineer, Frank Harringer.

THE CHARLEVOIX LUMBER CO., CHARLEVOIX, MICH.—Steamer Pine Lake, master, Eph. S. Small; engineer, Jno. Chemock.

THE MUTUAL TRANSPORTATION CO., CLEVELAND, O.—Steamer Coralia, master, William Cumming; engineer, Chas. J. Love. Cambria, master, Martin Johnson; engineer, Fred Warning. Corsica, master, Jas. A. Walsh; engineer, Andrew G. Haig. Corona, master, Stephen Murphy; engineer, Grant Donaldson.

THE CLEVELAND CLIFFS IRON CO., CLEVELAND, O.—Steamer Pontiac, master, S. A. Lyons; engineer, T. B. Kelley. Frontenac, master, S. N. Murphy; engineer, E. V. Barry. Cadillac, master, Geo. A. Symes; engineer, Thos. J. Reese. Pioneer, master, John M. Johnston; engineer, John J. Sammon. Kaliyuga, master, G. D. Tulian; engineer, James Bennett. Fontana, master, A. C. Reimers.

THE PRESQUE ISLE TRANSPORTATION CO., CLEVELAND, O.—Steamer Presque Isle, master, Jas. B. Lowe; engineer, E. I. Jenkins.

W. G. MATHER, CLEVELAND, O.—Steamer Edward S. Pease, master, Thos. Sloan. Planet, master, Frank Parsson.

THE HURON TRANSPORTATION CO., MILWAUKEE, WIS.—Steamer F. & P. M. No. 1, master, A. F. Pittman; engineer, E. B. Pike. City of Fremont, master, E. C. Evans; engineer, C. G. Grobben.

(SEE PAGE 12.)

## SHIPPING AND MARINE JUDICIAL DECISIONS.

(Collaborated specially for THE MARINE RECORD.)

Duty to Raise Sunken Vessel.—Where a boat has been sunk through the negligence of a third person, and wrecked so as to be a total loss, the owner is not required to raise and repair her, but may desert her and sue for the value. O'Reilly vs. New Brunswick, A. & N. Y. Steamboat Co., 55 N. Y. Supp. 1133.

Duty of Overtaking Vessel.—Under the navigation rules it is the duty of an overtaking vessel to pass at such a distance that her suction will not unreasonably interfere with the navigation of the one vessel. The Ohio, 91 Fed. Rep. 547.

Vessel at Anchor—Contributory Negligence.—It is not contributory negligence for the owner of a canal boat to leave her tied to a dock in charge of a man, he being required to exercise only the care required, under the surrounding circumstances, of a prudent person. O'Reilly vs. New Brunswick, A. & N. Y. Steamboat Co., 55 N. Y. Supp. 1133.

Admiralty—Settlement of Case.—An intervener in an admiralty suit in rem, who had obtained leave to prosecute his suit in forma pauperis, made a settlement with the claimants without paying costs or fees of his attorneys. Held, that the attorneys, not having taken steps to obtain a lien, were not entitled to continue the prosecution of the claim. The Bella, 91 Fed. Rep. 540.

Action for Negligence—Evidence.—In an action against a vessel to recover for negligently sinking an anchored boat by passing her with such speed as to push the ice floes against her, evidence that the person in charge of the vessel had been warned that it was dangerous to speed fast at the place in question is admissible. O'Reilly vs. New Brunswick, A. & N. Y. Steamboat Co., 55 N. Y. Supp. 1133.

Possessory Action.—Refusal to Issue Papers to Vessel.—A possessory action in admiralty will not lie merely for the refusal of a collector of customs to issue papers to a vessel, though such vessel may have been temporarily prevented from navigating as a result of the collector's non-action. Brent vs. Thornton et al., 91 Fed. Rep. 546.

Contributory Negligence—Sudden Emergency.—Where two meeting vessels by signals agreed on the course on which they should pass, and one suddenly sheered from her course, and within 40 to 60 seconds struck and sunk the other, the latter cannot be held in fault for not maneuvering in such unexpected emergency with the utmost promptness, skill and accuracy of judgment. The Ohio, 91 Fed. Rep. 547.

Hiring of Canal Boat—Liability of Bailee for Injury.—A bailee for hire is responsible for the proper care of the article hired, not only by himself, but by any one else to whom he entrusts it; and a defendant company, which hired a canal boat for use in his business, and contracted with a third person to use it, is liable for an injury to the boat received through the negligence of the contractor's servants. Gannon vs. Consolidated Ice Co., 91 Fed. Rep. 529.

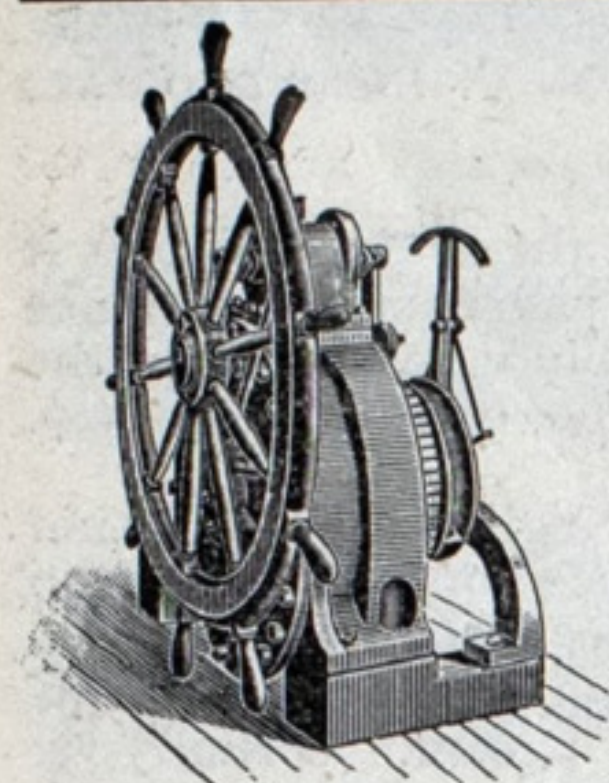
Breach of Contract of Carriage—Reciprocal Right to Liens.—The rights of the owners of a ship and cargo, with respect to liens, are reciprocal. The owner of a cargo has no lien on the ship for performance of the contract of carriage until the shipowner's lien upon the cargo for freight is attached. Nor is there any lien on the ship for the enforcement of a contract for the carriage of a passenger until he had rendered himself on board for the purpose of being carried as a passenger. The Bella, 55 N. Y. Supp. 540.

Collision—Steamer Passing Anchored Vessel.—A steam boat going down river at about 10 or 12 miles an hour passed a canal boat tied to a dock at a distance of 150 feet. The river was filled with ice, which the rapid movement of the steamer displaced and pushed against the canal boat, sinking her. Those in charge of the steamer had prior thereto been warned that it was dangerous to speed fast at the place in question. Held, that the question of negligence in passing the canal boat at such speed was for the jury. O'Reilly vs. New Brunswick, A. & N. Steamboat Co., 55 N. Y. Supp. 1133.

Evidence of Improper Management—Suction of Overtaking Vessel.—The steamship Mather overtook and passed the Siberia at a distance of from 40 to 75 feet in an open lake several miles wide and from 25 to 30 feet in depth. The vessels were of about equal dimensions and tonnage, both heavily laden, and drawing about 15 feet of water. The Mather was going at a speed of 10 and the Siberia 9 miles an hour. As the Mather was drawing ahead, the Siberia drew towards her, the stern somewhat more than the bow, and, sheering from her course, continued on such deflected course for a diagonal distance of 800 to 1,000 feet, until she collided with and sunk the Ohio, a vessel going in an opposite direction, and which would have passed the Siberia had the latter continued on her former course, at a distance of from 600 to 700 feet. Held, that while the initial sheer of the Siberia was probably due to the suction created by the Mather, for which the latter was in fault for having passed too close, such force was insufficient to account for the continuance of the Siberia on such deflected course for the distance traversed before striking the Ohio had she been properly managed. The Ohio, 91 Fed. Rep. 547.



## Queen City Patent Hydraulic Steerer.



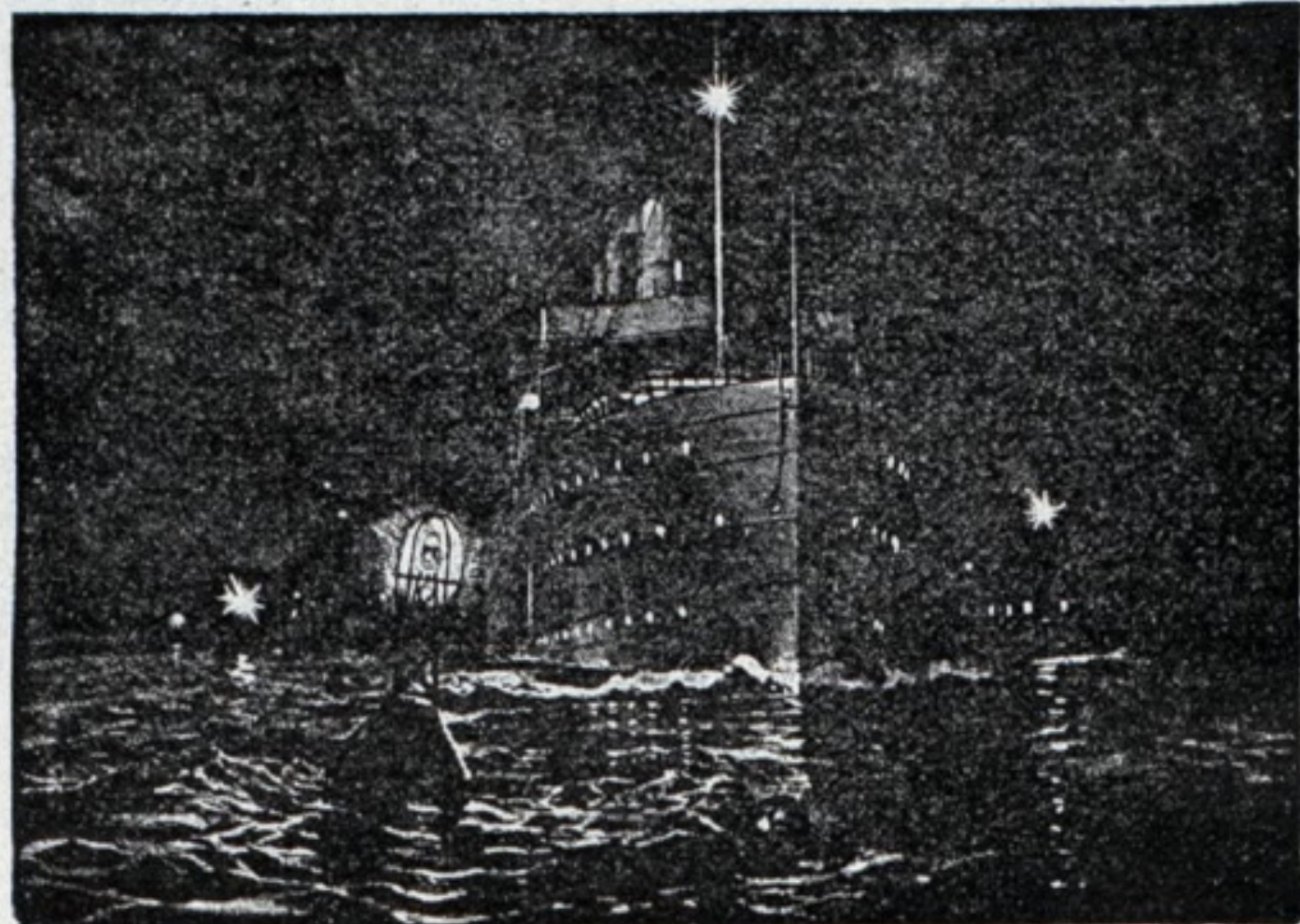
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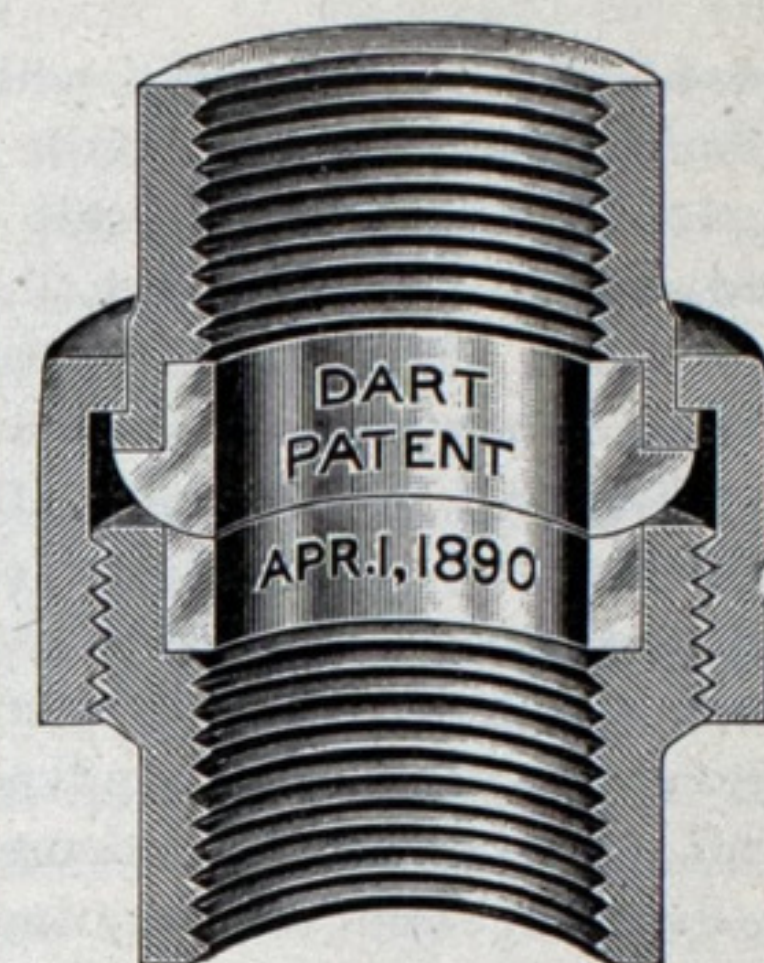
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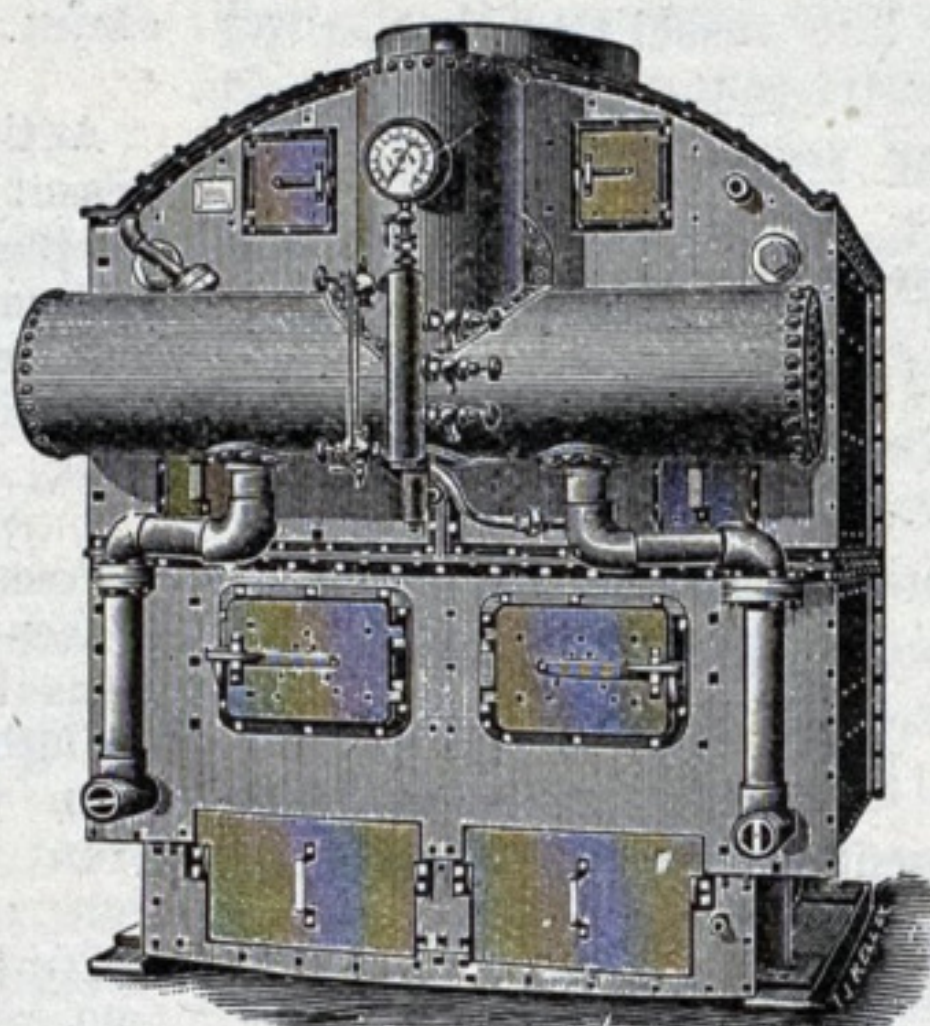
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### APPOINTMENTS OF MASTERS AND ENGINEERS.

**THE WILSON TRANSIT CO., CLEVELAND, O.**—Steamer new boat building, master, W. W. Dawley; engineer, Fred. M. Harman. Andrew Carnegie, master, C. C. Tousley; engineer, Wm. F. Gregory. W. D. Rees, master, Chas. A. Benham; engineer, Frank Stoeber. Yuma, master, Daniel Buie; engineer, John Skelly. Spokane, master, William A. Williams; engineer, James F. Derrig. Olympia, master, A. M. Shephard; engineer, James H. Norton. Yakima, master, Wm. Benham; engineer, James McGuirk. Sitka, master, Alex. Forbes; engineer, John F. Walsh. Wallula, master, Geo. W. Bryce; engineer, Jacob Zeh. C. Tower, Jr., master, Geo. B. Brock; engineer, Peter La Mara. D. Z. Norton, master, James Higgins; Yukon, master, Wm. Forbes.

**THE VOLUNTEER TRANSIT CO.**—Steamer Volunteer, master, Joe S. Wood; engineer, P. B. McCabe.

**CALVIN & CO., GARDEN ISLAND, ONT.**—Steamer, D. D. Calvin, master, A. H. Malone; engineer, T. C. Smith. Bothnia, master, G. A. Brian; engineer, R. Veech. Armenia, master, Chas. Coons; engineer, W. Cunningham. Reginald, master, John Doyle; engineer, J. Kennedy. Chieftain, master, John Sullivan; engineer, T. Gray. Parthia, master, David Lefavre; engineer, G. Sauve. W. Johnston, master, Ed. Phelix; engineer, T. Harper. Bluchell, master, John Dix; engineer, C. LeRiche. Schooner Ceylon, master, H. Smith; Augustus, master, J. Achee; Valencia, master, J. Ferguson.

**THOMAS H. SMITH, STURGEON BAY, WIS.**—Steamer Jos. L. Hurd, master, John Walker; engineer, Geo. Keister. I. N. Foote, master, C. B. Packard; engineer, James Curry. Pewaukee, master, Sam Christerforsen; engineer, N. Tolman. Schooner Emerald, master, Andrew Olson; Evaline, master, John Campbell. Tugs John Leatham, master, Henry Tufts; engineer, Ed. Webber. Sydney T. Smith, master, Pete Batcheller; engineer, Chas. Vandrasek. Geo. Nelson, master, James Tufts; engineer not appointed. A. J. Wright, master, Tom Isabell; engineer not appointed.

**FLINT & PERE MARQUETTE R. R. LINE, LUDINGTON, MICH.**—Steamer F. & P. M. No. 2, master, R. Haslebarth; engineer, Geo. Depuy. F. & P. M. No. 3, master, F. A. Dority; engineer, H. Nyland. F. & P. M. No. 4, master, Jos. Russell; engineer, F. McLaren. F. & P. M. No. 5, master, J. J. Doyle; engineer, J. Berry. Pere Marquette, master, P. Kilty; engineer, R. McLaren.

**CLEVELAND & BUFFALO TRANSIT CO., CLEVELAND.**

Steamer City of Erie, master, John Edwards; engineer, J. Y. Rendall. City of Buffalo, master, W. H. Smith; engineer, Charles Lorimer. State of Ohio, master, W. J. Wiloughby; engineer, David Donaldson. State of New York, master, H. McAlpin; engineer, William Steen.

**MINNEAPOLIS, ST. PAUL & BUFFALO S. S. CO., BUFFALO.**—Steamer Minneapolis, master, William Jamieson; engineer, Bion St. Bernard. St. Paul, master, James Jackson; engineer, John Davidson. Hennepin, master, A. E. McGregor; engineer, Geo. Robinson. Nebraska, master, Peter Thompson; engineer, Joseph Taylor. John Pridgeon, Jr., master, D. N. Sherwood; engineer, John Morgan.

**GRAHAM & MORTON TRANSP. CO., CHICAGO.**—Steamer City of Chicago, master, Chas. McIntosh; engineer, W. J. McClure. City of Milwaukee, master, John Stewart; engineer, C. L. Barron. City of Louisville, master, William A. Boswell; engineer, Wm. Johnson.

**THE OGDENSBURG TRANSPORTATION CO., OGDENSBURG, N. Y.**—Steamer Gov. Smith, master, W. S. Shay; engineer, John Phillips. Jas. R. Langdon, master, H. Brown; engineer, D. Costello. A. McVittie, master, W. H. Williams; engineer, A. D. Houghton. F. H. Prince, master, D. A. Kiah; engineer, James Chestnut. H. R. James, master, James Owens; engineer, James Turnbull. Walter L. Frost, master, T. M. Hough; engineer, L. D. Willox. Wm. A. Haskell, master, E. B. Shay; engineer, Morris Gore. W. J. Averell, master, W. D. Waite; engineer, John Alexander.

**LAKE ERIE TRANSPORTATION CO., A. W. COLTON, MGR., TOLEDO, O.**—Steamer Geo. J. Gould, master, Walter M. Cottrell; engineer, Geo. A. Butler. S. C. Reynolds, master, Henry Root; engineer, James Miller. Russell Sage, master, T. C. Herrick; engineer, Joseph Kohlbrenner. John C. Gault, master, Chas. H. Lewis; engineer, John C. Bustead.

**R. P. FITZGERALD & CO., MILWAUKEE, WIS.**—Steamer Philip D. Armour, master, F. D. Chamberlin; engineer, Frank Keating. Wiley M. Egan, master, Fred Howe; engineer, Fred Coleman. R. P. Fitzgerald, master, Leslie E. Boyce; engineer, B. McNeill. John Plankinton, master, Lewis H. Powell; engineer, Wm. G. Fell.

**CHAS. BEYSCHLAG, ST. CLAIR, MICH.**—Steamer P. J. Ralph, master, Henry Leisk; engineer, W. J. Bolton. Barge Harold, master, Thos. Leisk.

**STAR-COLE LINE, DETROIT, C. F. BIELMAN, MANAGER.**—Steamer Grayhound, master, B. S. Baker; engineer, Robt. Medler. City of Toledo, master, Archie Fletcher; engineer

not appointed. Darius Cole, master, Jno. Robertson; engineer, Wm. Dubois. Arundell, master, John Stover; engineer, C. H. McCarter. Idlewild, master, Jos. Lockeridge; engineer, R. Maxwell.

**S. R. McLAIN, TOLEDO, O.**—Steamer S. C. Baldwin, master J. A. Maddigan; engineer, Joseph Hall. Schooner A. A. Carpenter, master, W. K. Fullum. Marian Butman, master, John Bell.

**BIGELOW BROS., CHICAGO.**—Steamer Madagascar, master John Jenks; engineer, Chas. Nerreter. Schooner S. M. Stephenson, master, John Cowan. Fanny Neil, master, C. K. Moore.

**H. & J. CANDLER, J. W. CANDLER, MANAGING OWNER, DETROIT.**—Steamer M. M. Drake, master, P. C. Bassett; engineer, Cris. Muykelbury. Schooner Senator, master, Chas. Anderson.

**MERCHANT'S LINE, G. E. JACQUES & CO., MONTREAL.**—Propeller Cuba, master, Henry Chestnut; engineer, William Kennedy. Melbourne, master, Fred Elliott; engineer, Thos. Milne.

**ALEX. MCVITTIE, DETROIT DRY DOCK CO., DETROIT.**—Steamer Senator, master, E. B. McQueen; engineer, Andrew Carter. John F. Eddy, master, James Mara; engineer, A. C. Bowen.

**J. S. DUNHAM, CHICAGO.**—Steamer City of London, master, Wm. Anderson; engineer, J. J. Staley.

**WM. C. BLODGETT, BUFFALO.**—Steamer St. Joseph, master, Geo. E. Talbott; engineer, J. A. Braman.

**CHESEBROUGH BROS., BAY CITY, MICH.**—Steamer Peshigo, master, Chas. Haight.

**SYLVESTER BROS., TORONTO, ONT.**—Schooner St. Louis, master, George Williamson.

**H. W. MCCORMICK, BAY CITY, MICH.**—Schooner Ononta, master, M. J. Shean.

**L. P. MASON, SAGINAW, MICH.**—Schooner Rosa Son-smith, master, C. Son-smith.

**HOMER DURAND, TOLEDO, O.**—Schooner P. B. Locke, master, H. Durand.

**RUNNELS & SINCLAIR, PORT HURON, MICH.**—Steamer Maggie Duncan, master, D. M. Sinclair; engineer, Irving Buzzard. O. O. Carpenter, master, J. E. Rathbun; engineer, J. C. Watson. Schooner Favorite, master, L. Sinclair; Constitution, master, E. R. Tonsley; E. E. Tyson, master, C. W. Annis; Dashing Wave, master, not appointed.

**C. R. JONES & CO., CLEVELAND, O.**—Steamer Argo, master, Geo. L. Cottrell; engineer, John Golden. A. G. Lind-



say, master, C. H. Woodford; engineer, Charles Burns. Rhoda Emily, master, Jos. Albano; engineer, Ambrose Smith. W. L. Wetmore, master, Claude M. Ennes; engineer, Frank Stevenson. Desmond, master, L. F. Hunt; engineer, G. P. Hendry. Preston, master, W. J. Harlow; engineer, N. McNamara. Barge Brunette, master, Geo. R. Bonnah; J. T. Mott, master, J. M. Jones; John Magee, master, Harry May; Delos De Wolf, master, A. Carter; Argonaut, master, J. H. Warwick.

J. A. CALBICK & Co., CHICAGO, ILL.—Kalkaska, master, Henry S. Shackett; engineer, A. W. Wilcox.

THE THOMPSON LINE, ST. CLAIR, MICH.—Steamer Pilgrim, master, Eugene Hayward; engineer, Peter Robertson. Douglas, master, Fred J. Meno; engineer, Jos. Meno.

#### HARBOR OF REFUGE AND LIGHT WANTED.

The marine interests and citizens of Goderich have sent communications to various shipmasters' associations around the lakes asking them to indorse the projected harbor of refuge at Goderich, Lake Huron. The petition will be sent to the premier of Canada, Sir Wilfrid Laurier. The Goderich people also ask aid in securing a lighthouse and fog signal at Point Abino, Lake Erie.

At the last regular meeting of Toledo Lodge, No. 9, Shipmasters' Association, the following resolution was unanimously passed:

"Whereas, The port of Goderich, Ont., located on the east shore of Lake Huron, is very conveniently located for a harbor of refuge for both Canadian and American vessels, and could as we think without unreasonable cost be made a safe and easily accessible harbor of refuge for vessels in heavy weather, and

"Whereas, Point Abino on the north shore of Lake Erie, has always been considered a dangerous locality, especially in thick weather, which danger would to a great extent be removed were a light-house and fog whistle located in that immediate vicinity, therefore be it

"Resolved, That the improvement of the harbor of Goderich to the extent of making it a safe and convenient harbor of refuge, and the location and maintenance of a light and fog whistle on Point Abino, are most earnestly desired by all vessel owners and masters along the lakes, and we firmly believe that the making of such improvements would materially lessen the dangers of navigation in those localities, and would therefore most earnestly recommend that they be provided for."

Similar action is to be taken by the other lodges, including the Harbors of Masters and Pilots.

The work of cutting the steamer Preston in two and lengthening her, has been commenced in Craig's shipyard, Toledo. When she comes out, she will be one of the staunchest and best boats on the lakes.

#### VISIBLE SUPPLY OF GRAIN

As compiled for The Marine Record, by George F. Stone, Secretary Chicago Board of Trade.

| CITIES WHERE STORED.          | WHEAT. Bushels. | CORN. Bushels. | OATS. Bushels. | RYE. Bushels. | BARLEY. Bushels. |
|-------------------------------|-----------------|----------------|----------------|---------------|------------------|
| Buffalo.....                  | 1,339,000       | 40,000         | 2,000          | 24,100        | 527,000          |
| Chicago.....                  | 4,457,000       | 11,852,000     | 1,517,000      | 469,000       | 842,000          |
| Detroit.....                  | 274,000         | 458,000        | 1,000          | 6,000         | 4,000            |
| Duluth and Superior           | 8,690,000       | 5,015,000      | 2,022,000      | 276,000       | 450,000          |
| Milwaukee.....                | 45,000          | 1,000          | 6,000          | 7,000         | 120,000          |
| Montreal.....                 | 20,000          | 16,000         | 361,000        | 3,000         | 6,000            |
| Oswego.....                   |                 | 119,000        |                |               | 50,000           |
| Toledo.....                   | 482,000         | 1,114,000      | 94,000         | 3,000         |                  |
| Toronto.....                  | 74,000          |                | 17,000         |               | 17,000           |
| Grand Total.....              | 29,799,000      | 34,033,000     | 10,613,000     | 1,528,000     | 2,605,000        |
| Corresponding Date, 1898..... | 32,415,000      | 42,644,000     | 12,854,000     | 3,409,000     | 1,656,000        |
| Increase.....                 | 322,000         | 701,000        | 590,000        |               | 42,000           |
| Decrease.....                 |                 |                |                | 14,000        |                  |

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

#### NOTES.

J. J. HILL, president of the Great Northern Railroad and owner of a large fleet of steel lake steamers, has just returned from a visit to the Pacific coast, where he had been inspecting his railroad. Mr. Hill has favorable traffic arrangements with a fine line of steamers on the coast, but he is by no means the man to let others do what he can accomplish for himself, it is therefore likely that we will soon hear of the building of a fleet of large steel steamers for the Pacific trade, to be used as an Occidental feeder to the Great Northern transcontinental railroad system.

AMONG recent notices of the incorporation of new companies is one to the effect that there has been formed a company under the style of DeGrauw, Aymar & Co., for the purpose of carrying on business as wholesale dealers in cordage, etc., and some people very naturally come to the conclusion that this was the incorporation of the old concern of that name located at Nos. 34 and 35 South street, New York, of which Mr. George F. Schmid has been for some time past the sole proprietor, but such, it appears, is not the case. The old house of De Grauw, Aymar & Co. dates back to 1829—just 70 years ago—and during that long period there have been, of course, various changes of style and personnel and the present one has been in use since 1881. For about four years past Mr. Schmid has been the sole owner of the business and has carried it on under the old firm name and style, retaining all the old connections. The new company that has been established is formed, it appears, by former employees of this house. In view of the similarity of names it is proper to print these details, so that customers of the old house may know that its business is carried on the same as heretofore and under the same

management. There will be and has been no change in the house of De Grauw, Aymar & Co., 34 and 35 South street, New York City.

SPEAKING of the highest rates of reinsurance effected on an overdue vessel. Ninety-five per cent. has been quoted as the closest margin ever taken. In the marine insurance notes of the current issue of Fairplay regarding this matter, it is stated that in at least one instance as much as 100 per cent. has, in the present generation, been paid on an overdue. The circumstances in that particular case were as follows: The uninsured owner of a whaler which was hopelessly overdue and given up on all hands went to a well known mutual company and asked the underwriter at what rate he would grant him a policy on the vessel for \$5,000. The underwriter said: "The ship is undoubtedly lost; but as you press for a rate I quote you 100 per cent." The owner accepted the quotation on the spot, paid down \$5,000 for a \$5,000 policy, and in due course received the amount back as payment of a total loss. What could he have gained by paying \$5,000 with one hand to receive the same amount back with the other? This is the explanation. At the end of the year the owner came in for a 40 per cent. dividend, or \$2,000, in addition to the \$5,000, the profits of the mutual company in question being regularly distributed among the year's policy-holders. So much at least can be said in favor of a financially successful and prosperous mutual marine insurance organization, or any other dividend-paying mutual association for that matter.

#### NOTICE TO MARINERS.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—WISCONSIN.

TREASURY DEPARTMENT,  
OFFICE OF THE LIGHT-HOUSE BOARD,  
WASHINGTON, D. C., March 7, 1899.

STURGEON BAY CANAL LIGHT STATION.—Notice is hereby given that on or about March 17, 1899, a light of the third order, flashing alternately red and white, interval between flashes 10 seconds, will be established in the tower recently erected on the northerly side of the entrance to Sturgeon Bay canal from the Harbor of Refuge, westerly side of the northerly part of Lake Michigan.

The focal plane of the light will be 107 feet above mean lake level, and the light may be seen 18½ miles in clear weather, the observer's eye 15 feet above the water.

The tower is a brown, cylindrical metal shaft, surmounted by a cylindrical watch room of larger diameter, carrying a lantern deck and lantern painted black. The tower stands about 100 feet northeasterly from the present keeper's dwelling.

The approximate geographical position of the tower, as taken from Chart No. 55 (Lake Michigan Coast Chart No. 1), of the United States Survey of the Northern and Northwestern Lakes, is:

Latitude, North, 44° 47' (45");  
Longitude, West, 87° 18' (46").

By Order of the Light-House Board:

FRANCIS J. HIGGINSON,  
Rear Admiral, U. S. Navy, Chairman.

## TOBIN BRONZE

(Trade-Mark Registered.)

Tensile strength of plates one-quarter inch thick, upward of 78,000 lbs. per square inch. Torsional strength equal to the best machinery steel. Non-corrosive in sea water. Can be forged at cherry red heat. Round, Square and Hexagon Bars for Bolt Forgings, Pump Piston Rods, Yacht Shafts, etc. Rolled Sheets and Plates for Pump Linings and Condenser Tube Sheets, Centerboards, Fin Keels and Rudders.

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MARINE ENGINES,  
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PARKER & MILLEN, 15 Atwater Street, W., Detroit, Mich.  
J. G. KEITH & CO., - 138 Rialto Building, Chicago, Ill.  
LA SALLE & CO., Board of Trade Building, Duluth, Minn.

Are prepared to make rates on all classes of Marine Insurance on the Great Lakes, both CARGOES AND HULLS.

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## Insurance Company of North America

CAPITAL, Paid up in Cash, - - - - \$3,000,000.00  
ASSETS, - - - - 10,173,488.90

CHARLES PLATT, President.  
GREVILLE E. FRYER, Sec'y and Treas.  
T. HOUARD WRIGHT, Marine Secretary.

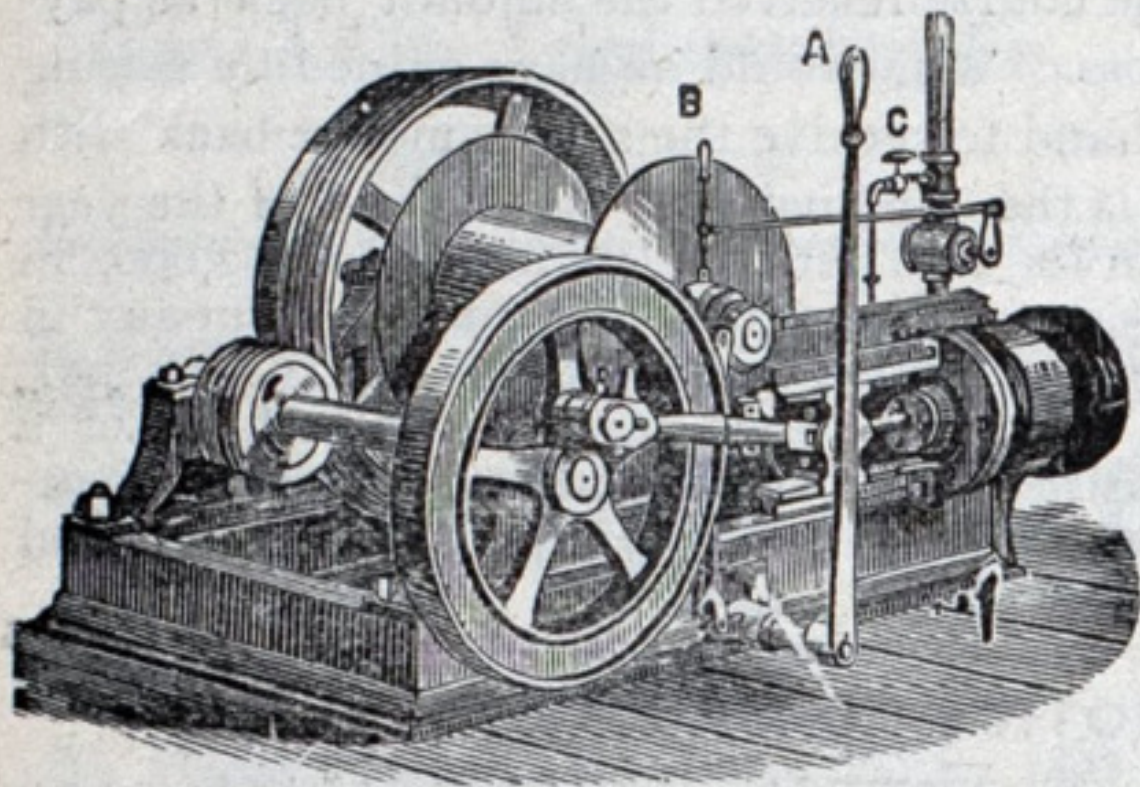
EUGENE L. ELLISON, Vice President.  
BENJAMIN RUSH, Second Vice President.  
JOHN H. ATWOOD, Assistant Secretary.

Lake Marine Department, GEORGE L. McCURDY, MANAGER.  
CHICAGO, ILL.





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COR. RICHMOND AND YORK STS.,  
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STEERING ENGINES.**

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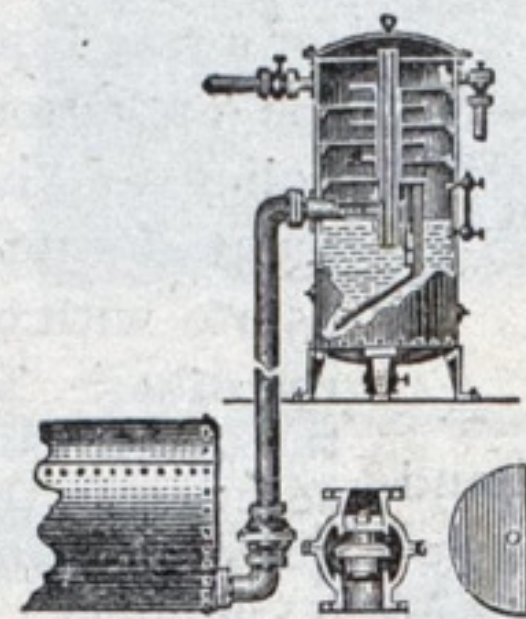
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tables supplied. Great facilities  
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**John Maurice.**

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Steam Jet...  
THE BEST STEAM JET PUMP IN THE WORLD.



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using the least steam.

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use only one-third the quan-  
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coal (? of \$) to make steam.

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for fires on steam vessels.

A No. 7 Pump, costing  
\$25.00, will force water  
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of hose and  
throw a 3/4-inch  
solid stream of  
water 75 feet  
from end of nozzle without  
fail as long as there is water  
at end of suction pipe. It will  
not freeze. Has no valves.

Every pump guaranteed.  
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them, or write to us for  
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DETROIT RIVER BRANCH.—Amherstburg; Four Pockets; Three Steam Derricks  
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**FUEL DOCKS:** Equipped with 125 2-ton Buckets for  
**FUEL LIGHTER:** Fueling anywhere in Harbor.

WE PRODUCE OUR YOUGHIOGHENY COAL, AND GUARANTEE QUALITY.



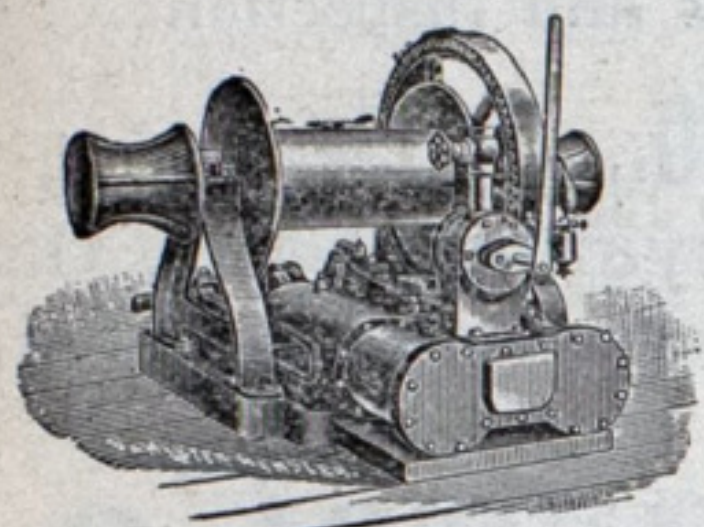
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J. A. DONALDSON, Manager. N. J. BOYLAN, Fuel Manager.  
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TELEPHONE, MAIN 1888.  
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MANUFACTURERS, UNDER THE CHASE PATENTS, OF  
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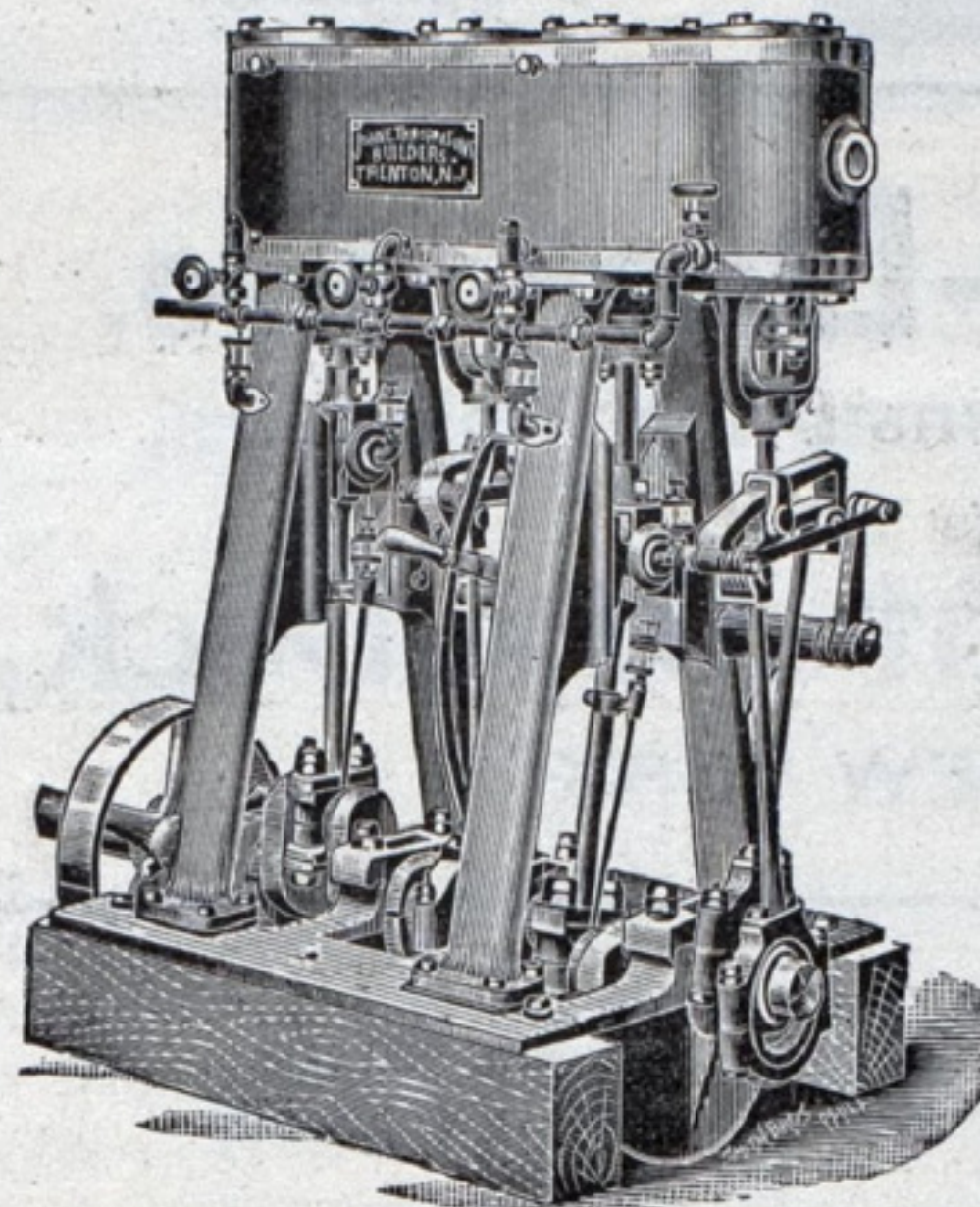
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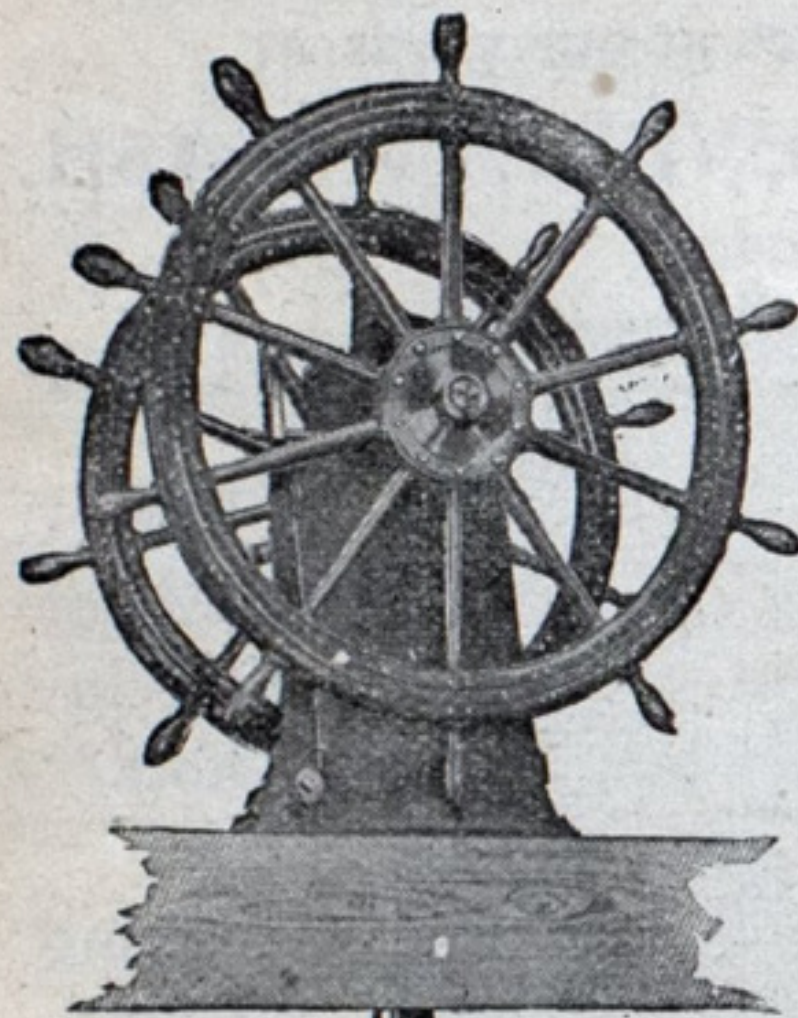
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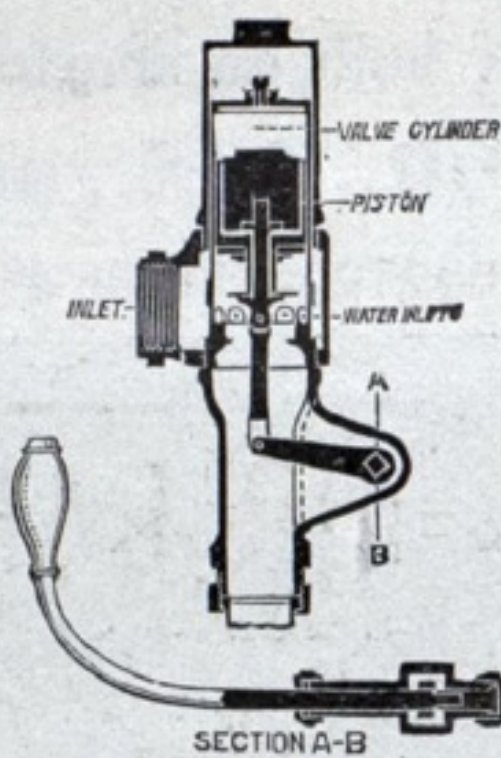
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Beck Patent  
Steam and  
Hand Steering  
Gear.

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Pawling & Harnischfeger,  
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Simplest,  
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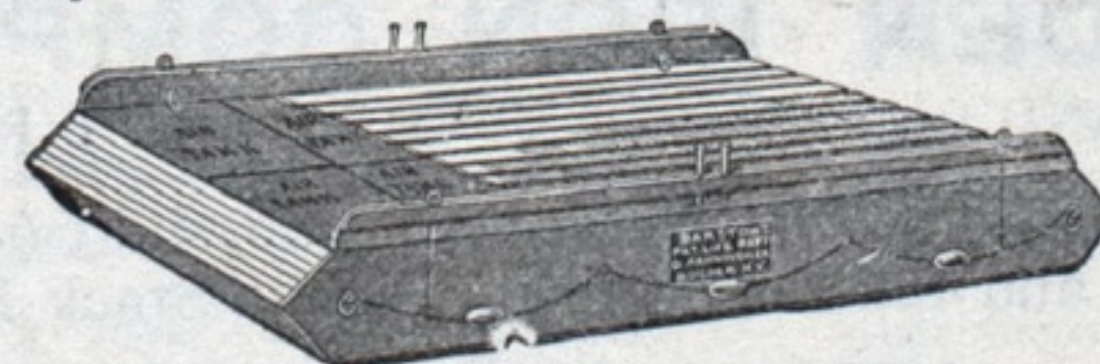
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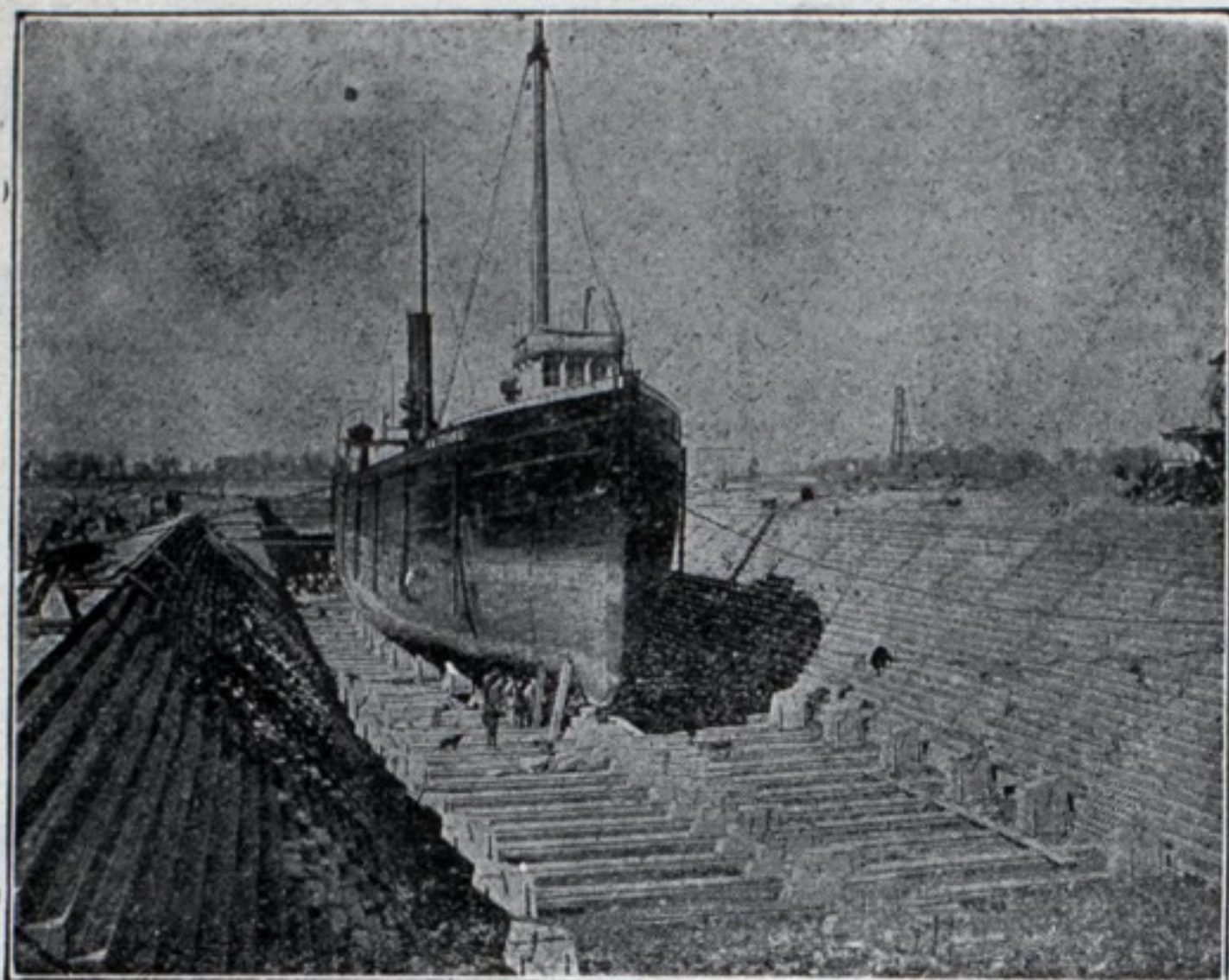
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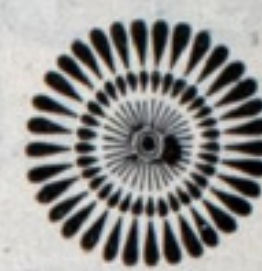
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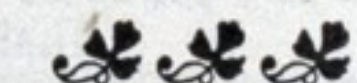
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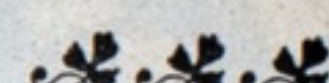
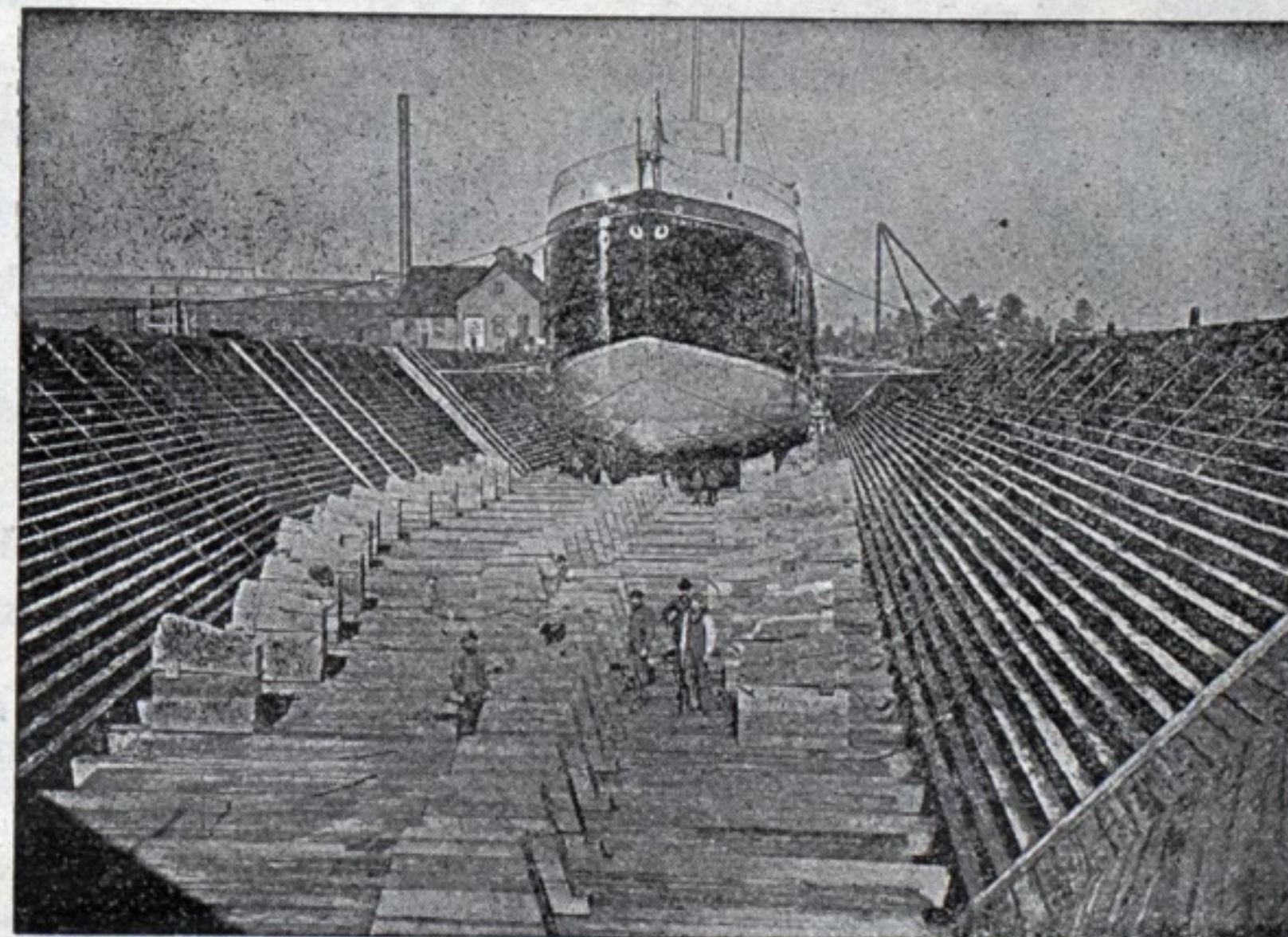
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